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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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SPEED OF ATLANTIC LINERS.

The highest recorded speed on the Atlantic as an average for the whole passage is 21.9 knots per hour, performed by the Cunard Line steamer Lucania. This has now been nearly equalled by her sister ship, the Campania, which has just made the passage from New York to Queenstown in 5 days, 13 hours, 8 minutes over a total distance of 2,905 knots. Had she come over the shortest route, on which previous records have been made, her time would have been 5 days, 8 hours and 6 minutes, her average speed having been 21.82 knots per hour. The weather she encountered seems to have been of the ordinary character for this time of the year, except that off the English coast she was detained a little by fog. Passing Sandy Hook lightship at 5:14 p. m. on the Saturday, she ran by noon on the following day 382 knots, and thereafter 506, 515, 512, 511, until on the morning of the last day she made 479 knots. These steamers, the Campania and Lucania, are phenomenal in their size and speed.

COAST AND GEODETIC SURVEY.

Prof. T. C. Mendenhall, director of the United States Coast Survey, is reported by the daily newspapers to have resigned, or to be about to resign his position as a consequence of the movement to abolish the bureau of the United States Coast and Geodetic Survey, which is headed by Congressman Enloe, of Tennessee.

The conflicting rumors make the correctness of these reports doubtful, and up to date Prof. Mendenhall refuses to make any statement except to say that he is still at the head of the department.

A LARGE LUMBER CARGO.

It is expected that the big new schooner Grampian, built for the lumber trade by Davidson, of Bay City, and loading this week at Duluth, will carry about 1,600,000 feet. This will be the largest cargo of lumber ever carried from the head of the Lakes, the record previously being held by the Ketcham at 1,140,000 feet, and the Monohansett a few days ago with 1,300,000 feet.

The Grampian is the largest lumber carrier on the lakes and but one larger was ever built. This was the scow Wahnapitar with a capacity of 2,500,000 feet, built six years ago and finally sunk off the Cleveland breakwater.

COAL VERSUS PETROLEUM.

What is reported as a conclusive test between coal and petroleum as fuel for Chicago tugs took place on Saturday last. The tug Black Ball No. 2, burning petroleum, and the tug Bob Teed, burning soft coal, raced to Waukegan and back solely to test the merits of liquid fuel. In the run of thirty-five miles to Waukegan the Bob Teed won by thirty minutes, repeating the victory and adding ten minutes to her lead on the return. The two tugs have exactly the same sized engines, and while the Teed is allowed more steam pressure, yet the safety valve was cut off at eighty-five pounds, the limit of the Black Ball. The smoke inspectors were on both boats to see that the race was fairly conducted. The test was deemed conclusive as against petroleum under the present devices. Many times during the race the combustion of petroleum was so bad that the Black Ball made as much smoke as if she had been using soft coal.

INLAND LLOYDS' SUPPLEMENT.

Manager McLeod has issued the supplement to the Inland Lloyds' Vessel Register, showing the June alterations and additions to the book. The new tonnage list contains the names of the steamers Shenandoah and Adelia Shores. The former registers 1,800 tons and is rated A1, with a valuation of $145,000. She was built by James Davidson, of Bay City. The Shores was built at Gibraltar by the Woverine Barge Co., and was at first known at the Wolverine State; but, when her builders sold her to the Shores Lumber Co., they changed her name. She is also given an A1* rating, with a valuation of $65,000. There are also two new schooners registered. One is the Biwabik, built by Anderson, of Marine City, for N. & B. Mills, of Port Huron, measuring 1,330 tons net and valued at $70,000, with an A1* rating. The other is the Grampian, 802 tons net, built by James Davidson, and still owned by him. She is valued at $45,000, with the highest rating.

LAKE SHIP CANALS.

The House committee on railways and canals is struggling vigorously with several matters which have been comparatively neglected until a few days past, and the sub-committee is investigating the bills for canals. The great project of a ship canal from the Mississippi to Lake Superior has got so far as to demand serious attention, and Hon. Mr. Keifer, of Minnesota, who introduced the principal bill, has secured many favorable opinions for it. His proposed canal would start at St. Paul, follow the Mississippi to near its head and then go through a chain of lakes to Duluth, thus describing a complete semi-circle. Another route advocated is up the St. Croix to its head and then across the summit level by way of numerous lakes, and a third leaves the St. Croix and follows up an eastern branch of it, running into Duluth from the south. All these are far north of the much discussed Hennepin canal, and it is easy to figure on the basis of existing transportation what the gains would be.

Last year about 11,000,000 tons of freight passed over the "Soo" canal, of which about 5,000,000 tons went to points on the proposed canal. At the ordinary reduction from railroad rates the canal would have saved $2,500,000 on that amount. It is claimed that the saving would be 10 cents per barrel on the 500,000 barrels of flour shipped from Minneapolis on this route, and of course the cheaper transportation for coal would greatly increase its consumption by the prairie states in the North-west. The engineers' estimates of the canal vary all the way from $5,000,000 to nearly twice as much.

The hearings and arguments on the proposed Niagara ship canal have also been quite interesting. The bills introduced by Mr. Chickering, of New York, and Mr. Powers, of Vermont, are almost identical. The proposition is for a ship canal from the Great Lakes to the Hudson. Another, and a rather surprising proposition, is for an enlarged canal from Lake Erie to the Ohio river, to start at a point near Erie, Pa., and terminate near Pittsburg. The present bill, which provides only for a survey, was favorably reported to the Fifty-second Congress from this committee, but not acted upon.

NORWEGIAN SHIPBUILDING.

During the last two years the steamers belonging to Norwegian owners have increased in number, while the number of sailing ships on the register has declined. This, as regards the sailing fleet, is an entire contrast to what happened in 1892 and 1891, in which years there was an increase in the number of sailing vessels owned in Norway, a result to which the favorable rates of freight which prevailed in the years 1888 to 1890 no doubt contributed. From January 1, 1889, to January 1, 1893, the Norwegian merchant fleet received an augmentation of 210,500 tons.

The principal falling off is under the head of steamers, the construction of sailing ships remaining pretty much the same during the past three years, and being, indeed, in a more flourishing state than it was in 1889 and preceding years. During recent years also several of the sailing ships were built of steel. On July 1, 1893, there were also on the stocks in Norway fourteen small steel steamers with a total tonnage of 4,510, or 322 tons on the average. In this connection it is to be remarked that the building of iron vessels in Norwegian yards was carried on actively in 1893. Iron ship building in Norway experienced somewhat of a spurt last year, and metal ships were even built on Swedish and Danish account. The Norwegian yards are also reported to be busy this year, although prices realized are not very satisfactory.

NEWS AROUND THE LAKES.

CLEVELAND, O.

Special Correspondence to The Marine Record.

A letter is at THE RECORD office in this port addressed to John Franklin Brown.

Capt. Benham succeeded in raising the Pickands & Mather fueling scow sunk in the river bed after getting a clip of the North West's propeller and she is now being thoroughly repaired ready for work again.

The friends of Capt. Geo. F. Babcock, keeper of the life saving station at Fairport, O., will be sorry to learn that his esteemed wife died a few days ago. Mrs. Babcock has been in poor health all the summer, but the immediate cause of her death was due to a fall which she had last Friday night.

The surveyors on the steamer V. Swain, now lying at this port, badly damaged by a fire which occurred last fall, have decided that she is a constructive total loss, as it would require more money to put her in seaworthy condition than her total valuation, as expressed in her policy amounts to.

In shipping circles, this has been the quietest week of the season, not alone on account of the Fourth intervening, but that there was practically a shut down in loading and chartering. It is hoped that business will pick up again in a few days. Several of the large lines have determined to keep their vessels tied up until freights are better.

Senator Brice appeared before the Senate committee on commerce on Saturday last to urge that the appropriation for the Cleveland harbor be increased by $25,000, and that that for the Toledo harbor be increased by $20,000. The Senator expresses hopes that he will be successful in this effort, especially as the increase was passed for several other harbors on the lakes.

Mr. Van Voorhis, of Ohio, introduced in the House a petition from the Cleveland Board of Lumber Dealers endorsing the project of a ship canal to connect Lake Erie with the Ohio river, and asking that $200,000 be appropriated for that purpose, as recommended by the committee on railways and canals. This project is also approved in a petition by the Toledo Produce Exchange.

Local boiler inspector McGraw explains the boiler legislation referred to in another column by saying that it is only the reinsertion of a proviso which appeared in the old law and which was stricken out by a bill passed February 11, 1885. He says the bill would apply to only one boat inthe lake districts, the O. B. Read, which has had her name changed to the Idler and is now plying on the Maumee. No boats in the lake service contained externally fired boilers.

Never in the history of the port has there been such a gala day as was witnessed here on the memorable Fourth. Thirteen yachts entered in the regatta, and although some pretty sailing was done, the wind flushed out towards the end of the race and the time clause came in to stop the contest. The Say When was the flagship and everything possible was done by Capt. Tokd to make things pleasant for his guests. A large number of people viewed the regatta from the lake shore.

In the procession of manufactures on Wednesday, the Globe Iron Works Co. showed a full model of the large steel steamer Tuscarora, built at this port for the Lehigh Valley Line. This handsome model was exhibited at the World's Fair and called forth congratulatory remarks from many of the foreign visitors who had not conceived of such tonnage being engaged in the lake trade. The gospel boat of Chaplain Jones of the Floating Bethel was a conceit which took the eye of marine men and he received many a wave and cheer for his energy in getting up so timely an exhibit as well as for his skill in having her so shipshape. A few were puzzled to know where the chaplain, who, by the way acted as coxswain,shipped such an elegant crew, not one of which it was believed ever rolled a quid of tobacco or had his or her hand in a tar bucket. All the same the Floating Bethel did honor to itself and the worthy chaplain.

DETROIT, MICH.

Special Correspondence to The Marine Record.

Capt. E. C. Van Patten has been made master of the propeller City of London in place of Capt. William Anderson.

The Livingstone has been placed in ordinary here until the freight market improves. The Progress is loading her first cargo for the season, wheat to Buffalo.

The schooner Brightie has been libeled in the sum of $4,000 for damages amounting to $2,115, for damaging the yacht Empress at Marine City last August while the latter was lying at the dock.

The schooners Senator, Ganges, Ishpeming and Monguagon have been chartered for rock gypsum from Alabaster to Erie. The Ishpeming carries for 60 cents and the others 65 cents, all free in.

The Grummond Line steamer Flora, began her usual passenger service on Tuesday. The easy going steady travel on this line is frequently much preferred to the more speedy and exciting trips on larger boats.

Frank E. Kirby has received instructions from the president of the Pittsburg, Chicago & Lake Erie railroad to prepare plans for two transfer ferry boats on the same lines as the big ice crusher Saint Marie at Mackinac.

Capt. Hingston, one of the owners of the dredge General Meade, which was sunk in Lake St. Clair Wednesday, has taken Grummond's wrecker, Young America, a submarine diver and a set of hydraulic jacks to raise the dredge from the bottom of the lake. A Wells light will be used, and the work will be carried on night and day. It is now expected that the dredge will be raised by Friday at latest.

Several experts from the Duluth Dry Dock Co. have joined the steamer Harvey H. Brown to determine by scientific test, how much water her boilers turn into steam with one pound of coal; how much coal will be consumed per horse-power per hour; and how much power is used to move a ton of freight. The quality of fuel will also be taken into consideration, but it is not stated what the caliber of the firemen are to be.

The fueling firms rushed considerable coal here by rail just after the strike and they have been able to supply all demands since. They are getting short again on account of the railroad troubles but as a number of vessels are under charter for the coal docks it is likely that the supply will be kept up although vessels are not loading coal at any port with the despatch they would like.

Regarding the new car ferries, General Manager McVittie, of the Detroit Dry Dock Co., says: "The fact that Frank E. Kirby has been instructed to draw up the plans for two railroad car transfers for thePittsburg, Shenango & Lake Erie railroad does not indicate that the dry dock company will build the boats. When Mr. Kirby has finished the plans they will be submitted to all lake steel shipbuilders for bids and I suppose the lowest bidder will get the job. The two boats are to be of steel, to cost $250,000 each and will carry cars between Conneaut, O., and Port Burwell, Ont., a distance of 48 miles each way."

Work has begun at John Oades' shipyard for a marine railway on which vessels to be repaired will be drawn out of the water and cradled up on the ways. The railway will be an inclined plane, extending from the north side of the shipyard into deep water, and its bed in the river will be dredged out sufficiently deep to permit the cradle on which the ship rests to be run under the bottom of the vessel. The railway was formerly used by John Craig in his Trenton shipyard and was purchased from him by Mr. Oades. There has long been a necessity at the Oades yard for such a ship or railway and the new work will certainly be a paying investment besides giving extra facilities for docking capacity, moderate sized tonnage at a small expense. The former owner of the Marine railway, Mr. John Craig, now of Toledo, will have constructed a dry-dock 350 feet long, 90 feet wide, with 16 feet depth of water over the miter and sill. George Dupuis the well known contractor of this port has secured the contract for excavating the dock.

CHICAGO, ILL.

To the Editor of The Marine Record:

The supply of soft coal for fueling steamers and tugs was all used up last week and hard coal is now in general use.

The schooner Ann Maria was sold at Marshalls sale Monday morning for $1.725 to John P. Scharle of Chicago. The schooner was built at Conneaut, Ohio, in 1864 and is 256 gross tons.

In consequence of the railroad strike, the tug Mollie Spencer of the Dunham line took the Chicago *Tribune* morning papers and the V. O. T. tug J. V. Taylor, the Chicago *Inter-Ocean* morning papers to Waukegan, Kenosha and Racine Tuesday morning, starting at 3 a. m.

In the recent race between the Columbus and Virginia the latter boat made the run last summer in several minutes less time. Claims of much greater speed have been put forward for the Columbus. In the next contest the Virginia may come back to her former record.

A large salt elevator, the first of its kind on the lakes, for the handling of salt in bulk, is to be erected in South Chicago, where it is expected that 100,000 tons will be received this season. The salt will be handled in the same fashion as grain. Hitherto this bulk salt has come by rail.

The O. S. Richardson Fueling Co., will in a few days have 7000 tons of Black Horse coal at their fueling docks. It is being brought to this port by the steamer John N. Glidden and Consort Warmington from Cleveland, steamer Vega from Erie and another steamer from Ashtabula harbor.

George Warrington, 86 north Clinton street, has just shipped a Warrington Water Tube Boiler to Chas. Kellogg, Ithica, N. Y., for use in a 60 by 9 feet steam launch for Cornell University. The launch is guaranteed to make 15 miles per hour, and is built for the use of the Cornell navy.

The tug William Dickinson has had one of the Henderson Feed Water Purifiers placed on her. This patent purifier is pronounced as giving entire satisfaction. It saves frequent washing of boilers and the use of expensive and often injurious boiler compounds. Boilers can be run from 3 to 4 months without washing.

William Savill, ship-builder has nearly completed a big job on the schooner Elizabeth A.Nicholson,comprising new deck beams and decks, new cabin coamings, raised her 3 feet forward and built up solid and re-calked her all over at a cost of about $6000. Capt. Fred C. Hart is here from Detroit superintending the work.

The Vulcan Iron Works are building an extension to the old Chicago light house prior to its removal to Twin River Point, Wis. It will then be 100 feet in height to the focal plane, it was originally 77 feet. They are also building the operating machinery for the Metropolitan west side railroad bridge, at Van Buren street. They report business improving—prospects very flattering.

President Thomas F. Dowd, of the Marine Engineers' Union, is reported as saying that the lake men were ready and willing to join in the boycott is absolutely false. He says if any members of his union called upon Mr. Debs and proffered assistance the action was unwarranted and without official sanction. The lake engineers, he says, have never engaged in a strike, have no grievances, and although they sympathize with all honest labor in attempts to better their condition, they are not to be drawn into this fight.

J. G. Keith & Co., chartered the steamer Mary A. McGregor for oats to Port Huron at 1 cent. P. H, Fleming & Co., chartered the steamer Parks Foster for corn and oats to Buffalo at 1 cent, the schooner Belle Hanscomb for corn to Port Huron at 1 cent. Palmer Cook & Calbick chartered the steamer New Orleans for oats to Buffalo, at 1¼ cents, The steamer W. B. Ketcham and consort George B. Owen for lumber, Ashland to Chicago at $1.75 per thousand.

On Saturday a trial was made by the tugs Black Ball burning oil and the Bob Teed burning coal as fuel. They made a run from Chicago to Waukegan and back, a distance of about 70 miles. The Black Ball made the run to Waukegan and back in 6 hours 35 minutes and used 650 gallons of oil which cost $11.52. The Bob Teed made the run in 5 hours and 55 minutes and used 8480 pounds. of soft coal the average cost of which is $3.00 per ton. The boilers on both tugs were restricted to carry not above 85 lbs. steam pressure. Their engines and boilers are of the same dimensions, the Ball's engine averaged 137 revolutions per minute, the Teed's 151 revolutions per minute. The Teed is a much more modern built boat than the Ball hence her success as to speed. F. U. Adams, chief smoke inspector and several city officials were on board the Black Ball and Capt. Tom Johnson, Capt. John Barry, of the I. T. Line, and engineers John Williams and Phil McCuen were onthe Teed.

DULUTH, MINN.

To the Editor of The Marine Record:

Line boats were in the market all week at 1½ cents and light chartering was done. Tonnage to Lake Ontario at 2½ cents, vessels free from canal and tow bills, was offered without takers. Ore remains at 60 cents.

A quarrel, last Friday morning, between James Sutton, engineer, and Ed Porter, fireman, both of the tug Record, when the tug was outside in the lake, resulted fatally. Sutton left his engine and rushed aft, and clinched with Porter. The two men were locked in each other's arm in the struggle for mastery and they went over the side together. Even then they did not separate, but continued to fight in the water. Finally Sutton began to weaken, he was unable to swim, and suddenly he threw up his hands and sank. Porter, however, swam rapidly to the shore, and, as the tug was without engineer or fireman, the captain was unable to pursue him or to help Sutton before he sunk. Porter has been exonerated from all blame in the matter as being first attacked he simply defended himself to the best of his ability.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The schooner Ida Corning and D. K. Clint are still at the Mills Drydock, receiving large repairs.

The fueling companies have succeeded in getting enough coal to supply steamers this week, but have been unable to accumulate any as yet in preparation for another stoppage of the supply through the railroad strike.

The excursion steamer Columbia, while leaving her dock on Friday night, struck a boulder with one of her weeels, breaking the blades. She was taken to the Union Drydock, where the wheel was taken off and a new one put on in time for her regular trip on Sunday.

The funeral of Capt. John C. Flor took place Saturday afternoon from the family residence, No. 403 Plymouth avenue. The following members of the Lake Shipmasters' Association acted as pall-bearers: Capt. Alexander Clark, Capt. Lyman Hunt, Capt. Robert Drury, Capt. John Perew, Capt. Banner and Capt. John H. Dissett.

Coal shipments for June fell slightly below those of the previous June, being 384,663 tons, against 391,580 last year. The total for the season is 726,407 tons against 933,055 to date last season. This gave an entire falling off of 206,648 tons for the season, and is not very reassuring for the whole season's business, though there is still plenty of chance to recover lost ground. Though there is more disposition to send coal forward than there was early in the season, there is not much prospect of equaling last season's shipments.

THE ALIEN SEAMAN BILL.

The Lockwood bill which has been pending for several months, and which it will be remembered Col. Parsons and H. D. Goulder, Esq. of Cleveland, protested against before the immigration committee, has been somewhat revised.

The sixth section now provides that it shall be unlawful for the master or owner of any American vessel plying on the Great Lakes to knowingly employ on such vessel any sailor, deck hand or laborer who is not at the time of such employment either a citizen of the United States or shall have been permanently domiciled within the United States at least six months prior to his working or engagement on such American vessel. The master or owner of the vessel is held responsible for the employment of all hands to man and work on the American vessel and the penalty is a fine of not more than $500 nor less than $100, or imprisonment not exceeding one year and not less than six months for each offense. A complete defense for a vessel owner or master would be that they did not know whether the sailor employed was an alien or not.

MONTHLY METEOROLOGICAL SUMMARY.

Owing to the apparent weather changes in Ohio during the month of June when the "oldest inhabitant" pronounced it by turns the hottest and coldest ever recorded, the following summary furnished by W. B. Stockman, local forecast official in charge of the district embraced in Northern Ohio, is of more than ordinary interest:

Mean barometer, 30.00; highest barometer, 30.24, date 11; lowest barometer, 29.66, date 2; mean temperature, 69; highest temperature, 90, date 24; lowest temperature, 38, date 6; greatest daily range of temperature, 32, date 3; least daily range of temperature, 7, date 5.

MEAN TEMPERATURE FOR THIS MONTH IN

1871.....68	1877.....68	1883.....67	1889.....65
1872.....70	1878.....65	1884.....68	1890.....70
1873.....70	1879.....66	1885.....64	1891.....68
1874.....70	1880.....69	1886.....66	1892 71
1875.....66	1881.....64	1887.....68	1893.....69
1876.....69	1882.....66	1888.....68	1894.....69

Mean temperature for this month for 21 years, 66; total excess in temperature during month, 83; total excess in temperature since January 1st, 6.34; prevailing direction of wind, southeast; total movement of wind, 6,780 miles; maximum velocity of wind, direction and date, 49 miles, northwest, 28th; total precipitation 2.31 inches; number of days on which .01 inch or more of precipitation fell, 8.

TOTAL PRECIPITATION (IN INCHES) FOR THIS MONTH IN

1871....3.70	1877....5.43	1883....3.77	1889....1.65
1872....2.68	1878....2.68	1884....3.29	1890....4.50
1873....5.50	1879....4.26	1885....7.22	1891....4.07
1874....3 98	1880....4.47	1886....1.01	1892....5.51
1875....4.29	1881....8.07	1887....2.43	1893 .... .89
1877....3.21	1892....4.22	1888....4.13	1894....2.31

Average precipitation for this month for 21 years, 402; total deficiency in precipitation during month, 1.71; total deficiency in precipitation since January 1st, 3.45; number of clear days, 16; partly cloudy days, 7; cloudy days, 7.

ANOTHER KEEL LAID.

The Jenks Ship Building Co., of Port Huron, Mich., has started to lay the keel of a new steamer specially designed for the copper trade. The dimensions are: Length over all, 239 feet; beam, 35 feet; hold, 13 feet. The boilers and engines will be built by the Phoenix Iron Works, of Port Huron.

DEATH OF CAPT. BYRON HAWKINS.

Capt. Byron Hawkins, an old lake captain well known along the chain of great lakes, died Thursday last after an illness of some months. Among the vessels the captain had sailed were the propeller Dubuque, and schooners Thornton, Gypsy, George C. Finney, Dispatch, Lucene, Belle Hanscome, Home, Rogers, Mowry and Typo.

THE "SOO" AND SUEZ TRAFFIC.

A tabular comparison of the business of the two waterways in the last seven years makes this interesting showing.

Year.	St. Marys Falls Canal.		Suez Canal.	
	Number of vessels	Net registered tons.	Number of vessels	Net registered tons.
1887.....	9,355	4.897,598	3,137	5,903,024
1888.....	7,803	5,130,650	3,440	6,640,834
1889.....	9,579	7,221,935	3,425	6,783,187
1890.....	10,557	8,454,435	3,389	6,890,014
1891..	10.191	8,400.685	4,207	8,689,777
1892.....	12,580	10,647,203	3,559	7,712,028
1893.....	12,008	9,849,754	3,341	7,659,068

Thus it appears that the tonnage at the "Soo" has exceeded that of the Suez for at least five years past, and that the percentage of increase (barring the year of 1893) is so much greater in the American than in the Egyptain canal that the latter must eventually become insignificant by comparison.

It should be remembered also that the "Soo" is closed by ice five months of the year, so that the excess of activity during the open season is correspondingly greater. It is only by remembering these protentous facts that one can appreciate how vast are the resources of that western domain which is so fast drawing to itself the seat of empire, not only of America, but of the world. Already its water commerce, saying nothing of the score of great railroads which drain the region, exceeds the commerce of the East.

CHICAGO VESSEL INSPECTION.

The list of steam vessels to be inspected in the local district of Chicago during the month of July, 1894 are follows:

Com. Jack Berry	July 6
Fearless	9
Florence	6
Meteor	6
Ruby	11
Satisfaction	11
Kittie O'Neil	11
Effie Griggs	14
Naomi	14
Eona	14
C. W. Elphicke	15
Bonito	16
Algie	20
Ed. Watkins	23
Buena	26
Michagamme	26
Ariel	28
Harry E. Packer	29

AN ANCIENT LAKE NAVIGATOR.

Capt. A. J. Averill of Chicago, recently visited Sault St., Marie, and the *News* of that port prints quite a synopsis of the ancient navigator's career. It appears that Capt. Averill, is 71 years old, but hale and hearty and he enjoys the distinction of having been the captain of the long sunken old steamer Independence, which was the first steam vessel to plow the waters of Lake Superior. Capt. Averill brought the Independence to the "Soo" in 1845 and took her across the portage around the rapids. Six weeks were required to complete this task. He made one trip up Lake Superior as far as LaPoint opposite Bayfield, Wis., that fall. The old Independence excited great wonder among the the Indians when they first saw her. At one time a large crowd of the dusky denizens went on the boat to examine her. They could not understand how she was forced through the water by invisible means. While they were looking at the engine Capt. Averill blew a shrill blast of the whistle and frightened the Indians so that many of them jumped overboard in their terror. Capt. Averill left the Soo for California in 1848. He enjoys the further distinction of having been captain of the first steamboat on the Sacramento river. For some time he ran a boat between San Francisco and Sacramento. He received $1,000 for each trip, which required three days time. When the company wanted to cut his salary down to $1,000 a month the old argonant quit. The hull of the old Independence now lies on the bottom a short distance from the head of the St. Mary's Falls canal, where the boat was sunk by the explosion of her boiler a few years after she was brought to Lake Superior. Capt. Spalding presented to Capt. Averill with an oak cane made from a portion of the hull of the old Independence.

THE New York *Marine Journal* has just printed a list of forty-one British-built vessels equipped with American windlasses and capstans, which proves, the *Journal* states, that the American Ship Windlass Co., of Provi dence, R. I., have an exceptionally high reputation, based upon solid merit. If we cannot build ships for foreigners, it is some satisfaction to know that they have come to us for the best windlasses and capstans. With such a company, so admirably equipped as to plant, etc., and having such American skill and business enterprise behind it, there is little doubt that the aggressiveness of these windlasses and capstans will continue until not to be supplied with them will mean not to havea thoroughly equipped vessel.

ITEMS FROM THE LOG BOOK.

The barge E. S. Robinson, which was formerly one of the Marinette barge line, has been purchased by Capt. Slyfield of Port Huron for $4,500. She will be towed by the steamer White Star.

The ore receipts at Ashtabula for June were 385,697 tons as against 406,802 tons received in June 1893. The strike paralyzed coal shipments, only 8,890 tons having been shipped during the month.

About one hundred members of the Manistee Lumber Shovers' Union went on a strike, Monday, because an advance from 35 to 40 cents an hour was not granted. Picked-up crews are preceding with the work.

W. R. Nicholls, pnblic school inspector for West Kent, Ont., was drowned in the St. Clair River above Algonse, Saturday night, while rowing across the river, his boat being struck by the steamer Arundel and overturned in the middle of the river.

A Bay City crew of 'longshoremen started to load the A. W. Wright on Saturday at Melbourne, but the Saginaw men thought the job belonged to them. An attempt was made to drive away the Bay City men, but without success.

Iron ore shipments from Ashland, Wis., last week were 41,008 tons; for the month of June 295,865 tons, and for the season up to date, 663,008 tons. Lumber shipments were 4,446,000 feet for the week, and 22,195,-000 feet for the month of June.

The President has approved the joint resolution directing the appointment of a commission of engineers to examine and report upon the cost of deepening the harbors of Superior and Duluth and their entrances to a uniform depth of twenty feet.

During last season about two million tons of iron ore was shipped from Escanaba. So far this year shipments have aggregated about 50 per cent of last year's business, and the outlook is that the season's shipments will aggregate about 1,000,000 tons.

The longshoremen at the eastern Minnesota dock, West Superior, are paid $1.50 per day, but of this 20 cents is held back until the end of the year, when it is paid in a lump. The men now demand that the whole amount due them be paid each day.

Messrs. S. O. Fisher, Selwyn Eddy, and A. M. Switzer have been appointed a committee to visit Washington on behalf of the lumber dealers of Saginaw Bay, to protest against the proposed free admission of dressed lumber. It is thought they may be able to influence the Senate to modify that particular clause.

The quarters for 210 immigrants on the North West are being removed and replaced by state-rooms for 95 first-class passengers. The immigrant equipment of the North West will be put into the North Star. The Northern Wave and Northern Queen are already carrying second-class passengers.

The great railroad strike has stopped the expected shipment of coal from Toledo to the north-west to relieve the scarcity caused by the recent coal strike. Several vessels now at the Hocking Valley wharves, Toledo, and chartered for coal cargoes, are unable to obtain them, as the coal has been stopped on the way.

The Donnelly Wrecking Co., did excellent work on the sunken steamer Ocean, which collided with the barge Kent recently, below Ogdensburg. After getting their appliances on the ground the steamer was raised in a few days so that her main deck was level with the water. Her bow was patched up and she was taken safely to Kingston for final repairs under her own steam. Considering that the sunken craft was said to be a constructive total loss, the Donnelly Wrecking Co., are to be congratulated on their wreck raising and salvage work.

The new steamer Pentland of Grand Haven, collided with the schooner Dan Mabee off Ludington, Sunday night in a fog. The crew managed to keep the schooner afloat and she was taken in tow by the Pentland to Two River Point, where she was turned over to the life saving crew, who, with the assistance of a tug, managed to keep the Mabee afloat until Manitowoc was reached. The Mabee's crew had a narrow escape for there was over four feet of watcr in her hold. The captain claims that the collision was the fault of the steamer. The schooner was loaded and belonged to Burnham Bros. of Milwaukee.

According to a special sent out by the the Associated press from Chicago on Tuesday, a deputation of marine engineers visited Uhlrich's hall, Monday night, and stated that the local union at that point had resolved not to handle a pound of freight hauled by any one of the boycotted railroads. They said they had been authorized to give this information by Thomas F. Dowd, president of the local union of Marine Engineers and secretary of the national union. They added if that would not suffice the union would quit work whenever called out. The marine engineers are examined by the United States, qualified and licensed men, and if they go out their places cannot be supplied. The Railway Union is much elated over this accession to their ranks.

TAXES ON FLOATING PROPERTY.

COMPARING TAXES ON SHIPPING FOR STATE AND LOCAL PURPOSES IN SEVERAL PORTS OF THE UNITED STATES WITH TAXES LEVIED BY LEADING MARITIME NATIONS.

The following tables show the taxes paid by American shipping for State and local purposes in various ports of the United States compared with taxes paid by leading foreign steamship companies under the laws of their respective governments. Attention is invited to the heavy taxes on shipping levied by certain States of the United States compared with taxes levied by foreign nations.

Only the earnings of shipping are taxed in Great-Britain, Germany and France. On January 1, 1894, Austria suspended for five years taxes on its vessels in the foreign trade.

Delaware exempts shipping from all taxation; New York and Alabama exempt their shipping in the foreign trade from all taxation; Massachusetts, New Hampshire and Connecticut tax the earnings only of their shipping in foreign trade; and under decision of the U. S. Supreme Court, Pennsylvania imposes no tax on its shipping in interstate or foreign trade.

The tabulation of foreign steamship companies is compiled from the annual reports of such corporations to the stockholders. The valuation in each instance is doubtless the full valuation as it is the sum for which the vessel property is carried as an asset on the company's books. The tonnage is almost wholly steel and iron steamships.

The tabulation of ports in the United States is compiled from courteous responses of local assessment boards to the inquiries of this Bureau, and shows the taxes levied for 1893, the assessed valuation, and the estimated ratio of assessed to full valuation.

TAXATION BY FOREIGN GOVERNMENTS.

	Tax Paid.	Valuation.	Tonnage.
Cunard Co. (British)	$13,793	$9,702,062	112,124
North German Lloyd Co (German)	22,244	15,808,864	225,097
Hamburg-American Co. (German)	15,621	9,886,117	209,000
Campagnie Generale Transatlantique (French)	34,577	22,672,530	172,423
Navigazione Generale Italiana (Italian)	73,138	11,154,049	171,174
Lloyd-Austrian Co., (Austrian)	71,592	18,014,629	129,000
Peninsular & Oriental S. S. Co. (British)	27,500	11,539,981	209,456
Pacific Steam Navigation Co. (British)	3,322	6,676,715	111,937

TAXATION BY STATE LAWS.

	Tax Paid	Assessed Valuation.	Assesed. Per cent of Full.	Total Tonnage	Iron & stl Steamers
NEW ENGLAND.					
Bath, Me	$24,096	$1,047,655	100	119,999	None
Portland, Me.	18,653	909,899	100	63,206	None
Portsmouth, N.H.	2,077	110,500	75	6,813	None
Gloucester, Mass.	23,465	1,422,150	100	35,871	None
Fall River, Mass.	2,219	127,550	fair	59,571	11,848
Boston, Mass.	see note			214,746	24,662
Providence, R. I.	see note			32,111	4,790
New London, Ct.	2,677	167,328	50	42,380	4,283
MIDDLE ATLANTIC.					
New York	see note			1,054,684	277,730
Philadelphia, Pa.	see note			278,849	82,898
Wilmington, Del.	see note			16,937	2,831
SOUTH ATLANTIC.					
Baltimore, Md.	No (Response)			122,179	47,287
Norfolk, Va	1,611	120,190	fair	18,051	1,268
Wilmington, N. C.	392	46,700	66	4,939	786
Charleston, S. C.	2,457	106,815	33	9,665	995
Savannah, Ga.	14,348	956,550	50	36,118	26,487
GULF PORTS.					
Pensacola, Fla.	(No Response)			16,213	993
Mobile, Ala.	6,665	283,678	60	19,948	None
New Orleans, La.	39,240	1,453,325	50	53,845	28,129
Galveston, Tex.	3,177	363,100	75	15,269	412
PACIFIC COAST PORTS.					
San Francisco Cal.	85,675	5,354,675	60	311,914	54,047
Portland, Ore.,	(No Response)			41,917	7,891
Tacoma, Wash.	2,459	130,815	50		
GREAT LAKES.					
Buffalo, N. Y.	See note			172,316	58,194
Cleveland, O.	74,800	2,680,990	33	241,093	73,212
Chicago, Ill.	see note			90,530	9,122
Detroit, Mich.	22,083	1,456,640	fair	160,164	17,669
Milwaukee, Wis.	14,500	694,080	22	95,743	3,298
Duluth, Minn.	3,763	129,552	35	2,735	161
MAINE.					
Bath	24,096	1,047,655	100	119,999	None
Portland	18,653	909,899	100	63,206	None
Bangor	5,111	232,298	66	18,512	None
Belfast	844	52,872	100	18,611	None
Machias	727	40,362	100	14,824	None
Castine	256	12,091	100	14,250	None
Wiscasset	218	10,905	100	4,237	None

NOTE ON TONNAGE.

As city limits, (within which assessments are levied,) and customs districts (for which tonnage is returned,) are not conterminous, the figures as to tonnage give only an approximation and overstatement of the tonnage of vessel property, paying the taxes mentioned. The tonnage documented at any given large port in the list will be, to an extent, owned and taxed in smaller places near by (e.g. of 18,611 tons documented from Belfast, Me., only 2860 tons in the city paid the tax named, $844. The remainder was owned, valued for assessment and paid taxes, not included in the tabulation, at numerous small places near by. (The tonnage figures thus are available only for rough comparison with foreign tonnage.

NOTES.

BOSTON MASS.—The Chairman of the Board of Assessors states: "It would be impossible to state the total assessed valuation of vessels in the city of Boston, Mass., for 1893. Such class of property is included (excepting vessels in foreign carrying trade) in the dooming of those citizens who do not make returns, without specifying the same, and is assured as all other property, at a full and fair cash value and at the same rate (12.90 per $1,000 in value.) The proportion of personal estate returned to us under oath is about 20 per cent. of the total assessed valuation (202,015,500 of which $31,500 was for ships and vessels not engaged in the foreign carying trade, these being practically exempt by law. The value of ships in foreign trade as returned to us was for 1893, $281,856."

PROVIDENCE, R. I.—The Assessor of taxes states: "In this State no personal property is "listed" for taxation unless a sworn return is made by the tax-payer. In the absence of such a return the tax-payer is doomed in such an amount as in the judgment of the assessors is sufficient to cover the value of his property. Comparatively few returns are made and therefore no estimate can be given from the assessment rolls as to the value of vessel property.

Corporations are not, in this State, taxed for vessels, but the capital stock is taxable to the stock-holders at its market value. No tax is levied on the earnings of corporations owning vessels.

No discrimination is made in favor of vessels engaged in foreign trade."

NEW YORK, N. Y.—The Secretary of the department of taxes and assessments states: "It is impossible to answer your first question as to the total assessed valuation of vessels of all descristions in this city for the year 1893. * * * * The tax rate on real estate and personal property of individuals and corporations, not taxed directly by the State, for 1893, in this city, was 1.82 per cent.

The capital stock of corporations and the personal property of individuals owning vessels are taxable under the laws of this State, in this city, as personal property. * * Corporations owning vessels engaged exclusively in plying between ports in this city and foreign ports, are exempt from taxation on their capital.

PHILADELPHIA, PA.—W. H. Loughlin, clerk to the Board of Revison of taxes states; "Vessels belonging to individuals or corporations of this city and state are not subject to taxation. * * All corporations of this state are subject to a tax upon their capital stock."

WILMINGTON, DEL.—Delaware exempts all vessel property from taxation.

BUFFALO, N. Y.—The chairman of the board of assessors states "The greater number of vessels running into and out of this port are owned by railroad corporations and have their principal office in other places than Buffalo so that we cannot according to law assess them here. We have consequently no assessment on vessels for city taxes as the vessels which might be legally assessed are so incumbered with mortgages as to prevent their taxation."

CHICAGO, ILL.—While no reply from the assessors has been received, the bureau learns from private citizens that some years ago the assessors taxed vessel property at its full insurable value, and that, accordingly, many vessel owners were compelled to make nominal tranfers of this property through partnerships, etc., to other ports. Thus Chicago, though in tonnage of entries and clearances is a most important point, yet as a port of documented vessel property it takes very low rank, its vessel property being worth only about $300,000. These facts illustrate one result of heavy state taxation of floating property.

DEDUCTIONS.

To the foregoing, illustrating the weight of State and local taxation on shipping in many of the States, it may be added that in New York, Pennsylvania, Delaware and Alabama, American ships in the foreign trade are free from all taxes.

The deductions that may be reached by the foregoing are, that Bath, Me., levies more taxes on its shipping than are paid by the North German Lloyd Co., on over $15,000,000 of shipping to Germany; that Portland levies more taxes than the Cunard Co., paid to Great Britain last year on nearly $9,000,000 of shipping; that Portland taxes are greater than those paid even by Gloucester, Mass., or Detroit, Mich., on about $1,500,000; that taxation in Main appears to be three times heavier than in California, double that of Georgia and many times greater than in England, France and Germany. Indeed, none of the three great trans-atlantic lines could have been operated under the Maine tax laws, as those laws would have levied taxes on them greater than the amount any one of those companies paid as dividends last year.

That the taxes levied on shipping at Gloucester last year were more than those paid by the North German Lloyd Co., on over $15,000,000 shipping to the German government; or those paid by the Cunard Co., on over $9,000,000 of shipping to the British government; and the taxation at that port for State and local purposes is double the rate imposed at San Francisco or Savannah, Ga., on shipping.

That the taxation on shipping at Charleston, S. C., is five times heavier than that levied by Great Britain or Germany.

That American shipping at Savannah was taxed last year for State and local purposes a sum more than the Cunard Co., paid to the British government on over $9,000,000 on shipping, and that the burden of taxation appears to be four times heavier in Georgia than in France, and nearly six times heavier than in Germany.

That while Alabama exempts from taxes vessels engaged in the foreign trade, the taxes on coasting vessels at Mobile last year were double those paid by the Pacific Steam Navigation Co., to the British government on over $6,500,000 of vessel property.

That the taxes levied on shipping at New Orleans last year were more than the Compagnie Generale Transatlantique paid on $22,000,000 of shipping to the French government; than the two great lines the North German Lloyd and the Hamburg-American Line paid on their combined shipping valued at over $25,000,000; and were three times the taxes paid by the Cunard Co. on over $9,000,000 to the British government.

That San Francisco levied last year $85,675 taxes, a sum within $600 of the combined taxes paid by the Cunard Line, the Hamburg-American Line, the North German Lloyd Line and the Compagnie Generale Transatlantique to their respective governments, their combined shipping comprising upwards of 700,000 tons of the best steel and iron steamships in the world, valued at upwards of $58,000,000.

That the taxes on shipping for state and local purposes at Detroit were in amount virtually what the North German Lloyd paid on over $15,000,000 of shipping to the German government, and more than the Cunard or the Hamburg-American Lines paid to their respective governments on over $9,000,000 each.

That on its shipping Milwaukee levied taxes greater than those paid by the Cunard Co. to the British government on over $9,000,000 of shipping.

That the taxes levied on shipping at Cleveland, Ohio, last year were more than the combined taxes paid to the German, French and English Governments by their three great steamship lines, the North German Lloyd, the Compagnie Generale Transatlantique and the Cunard Line on their $48,000,000 of shipping.

Respectfully yours,

EUGENE T. CHAMBERLAIN, Commissioner.

THE HURONTARIO CANAL.

The projectors of the Hurontario or Georgian Bay canal, connecting Georgian Bay with Lake Ontario, seem to be in earnest in their attempt to open up the waterway. Already large offices have been leased at Toronto and a deposit of $100,000 lodged to the credit of the company. This week a staff of engineers will make a thorough survey in the vicinity of the Humber river.

The work of excavation will commence at Oak Ridges, within eight miles of Toronto. A tunnel will first be constructed to the upper waters. These will be turned in, and with their power this canal will be opened to the proper width. The earth brought down will be used in raising the low land below Oak Ridges. The level of this canal from Georgian Bay to the Ridges will be continued to a point near Lake Ontario, where the whole descent of over 400 feet will be made within a short distance.

A TUG LAUNCHED.

Thompson & Lynn's new tug, Charles L. Boynton, was launched at Port Huron on Saturday afternoon. Her dimensions are 95 feet in length, 20 feet beam and 11 feet hold. Her engines are 17x36x30, built by S. F. Hodge & Co., of Detroit. Her boiler is allowed 140 pounds of steam, and was built by the Detroit Dry Dock Co. The Boynton will be stationed at Port Huron with a complete wrecking outfit.

MARITIME LAW.

WESSELS ET AL. vs. STEAMSHIP CERES.

U. S. District Court, Southern District of New York.

1. CHARTER PARTY—GUARANTEE OF SPEED—"FRUIT OR LIGHT LADEN"—BREACH OF CHARTER. The charter of a vessel for the fruit trade provided that a ship should make a certain speed "fruit or light laden." Held, that the evidence showed that there was no standard or custom by which to determine the meaning of the words "light laden" apart from their context; and therefore that whatever cargo charterer put aboard, provided that the draft of the vessel did not exceed her draft when laden with a full fruit cargo, the steamer was "light laden" within the meaning of the charter

2. The charter of the steamship Ceres guaranteed that the vessel should "make an average speed under steam of not less than 11 knots per hour, fruit or light laden, in moderate weather and with good American coal." The evidence showed that that speed was not maintained, even in moderate weather and good coal, and that charterers never waived their objection on account of this defect; that the steamer was weighted down with less cargo than charterers were entitled to carry for a purely fruit cargo, and hence did not transgress the condition of "fruit or light laden;" that any variation of cargo from a purely fruit cargo was in favor of the vessel, and any objection to the trim of the vessel had not been taken at the time of loading and hence were waived by the ship. Held, on the evidence, that the ship had not made the required speed under the agreed conditions, and charterers were therefore entitled both to terminate the charter for this breach and to recover such damages as arose from it.

NORFOLK & W. R. CO. & AL. vs. THE BERKSHIRE.

District Court D. Rhode Island.

COLLISION—COASTING VESSELS—ACT FEB. 13, 1893.—The third section of the act of February 13, 1893, which in terms exempts vessels in the coasting trade and their owners from all liability in certain cases, applies only to the mutual rights and liabilities of owners and shippers, and does not abolish liability to third persons for collisions, or other maritime torts.

In Admiralty. Libel by the Norfolk & Western Railroad Co. and others against the steamer Berkshire to recover damages for a collision. Heard on exceptions to the answer. The exceptions are sustained.

This is a libel in Amiralty for a collision. The claimant answers, among other things, that the steamer "was a ship engaged in the transportation of merchandise and property between the ports of the United States of America, to wit, between the ports of Providence, R. I., and Norfolk, Va., and was engaged in the transportation of merchandise on the said 16th day of August, 1893; that the said Berkshire was in all respects seaworthy, properly manned, equipped, and supplied, and that by and under section 3 of the statute of the United States entitled "An act relating to the navigation of vessels," etc., approved February 13, 1893, and to go into effect the first day of July, 1893, the said steamship Berkshire is not responsible for the collision heretofore described, even if it resulted from faults or errors in the navigation or in the management of said steamship, inasmuch as the said collision occurred after said statute went into effect." To this part of the answer the libelant excepts.

Carpenter, District Judge, (after stating the facts.) The whole of the act which is here pleaded, (27 Stat. 445,) seems to me to relate to the rights and liabilities of owners and shippers, as between themselves with respect to the cargo; and the third section of the act, therefore, although in terms it exempts vessels and their owners from all liabilities whatever in certain cases, must be read with this limitation. The frame of the act shows that this is the only purpose; and the exemption stated in the third section is apparently intended as a compensation to shipowners for the additional duties and liabilities put on them by the other sections of the act.

The construction for which the claimant contends is that the statute abolishes all liability, and remedy for all marine torts of vessels transporting merchandise to or from any port in the United States, provided the vessel be seaworthy and properly manned, equipped and supplied, and leaves unaffected the liability of vessels transporting goods between other ports, and, perhaps, freight vessels in ballast, and also tug boats, pleasure boats, and vessels transporting only passengers. That a statute may be held to abrogate so large a branch of the admiralty law, it is necessary, as it seems to me, that the intent so to do shall appear by express words, or by absolutely necessary implication.

It is also to be observed that there is evidently no reason why the general rule of the admiralty should be changed in respect to this class of vessels, to the exclusion of others; and such partial change of the law is apt to introduce complications in the administrations of rights in case of collision between vessels coming under this section and those not coming under it. For this reason, also, the construction which takes the literal words of the section to extend its force beyond the general scope of the act cannot be admitted, unless it be a necessary construction.

The exception will be sustained.

NEW FOREIGN BUILT STEAMERS.

Again do we have to chronicle the unpatriotic move of a large American corporation in carrying work out of the country. President Ingalls, of the Chesapeake & Ohio Railway Coal Agency Co., is now in England, and it is stated that one of the chief objects of his trip abroad is to negotiate for the construction of several first-class freight steamships to run between Newport News and European Ports in connection with the Chesapeake & Ohio system. The company is now running the Chesapeake, the Rappahannock and the Shenandoah from Newport News to London and Liverpool. It has also recently chartered several steamers to carry grain under the name of the Chesapeake & Ohio Steamship Co., Limited. The success of this venture being assured, it is now proposed to increase the service.

It is said that the American members of the company will advance 55 per cent. of the cost of construction and the English members the balance. The ships will be built there presumably because they can be constructed cheaper than in this country.

BUFFALO MARINE HOSPITAL SERVICE.

The Marine Hospital Service has awarded the contracts for the care of seamen for the present fiscal year. The contracts for Buffalo are as follows: The medical attendance to be furnished by a medical officer of the Marine Hospital Service; the Buffalo Hospital (Sisters of Charity) to furnish quarters, sustenance, nursing and medicines at 80 cents per day; contagious diseases at $2 per day, and to provide for the burial of deceased patients at $10 each. The medical attendance to be furnished by an acting assistant surgeon, Mrs. Henry Whelpley to furnish quarters, subsistence and nursing at $1 per day, contagious diseases $1.50 per day; John Druco & Sons to provide for the burial of deceased patients at $14 each. Patients requiring long continued hospital treatment will be furnished transportation to the United States Marine hospital at Detroit.

A TRAMP DERELICT.

In 1881, when C. H. Hill, now of the Brazilian navy, was on the Jeannette relief expedition to the Arctic regions, sent out by the government, his ship for a time was laid up at Reykjavik, the capital of Iceland. While he was there he saw a derelict float in and strike the wharf. It was at once made fast, and proved to be loaded with yellow pine lumber. The vessel was literally covered with moss and barnacles, and investigation disclosed the fact that the name of the old craft that for years by the tide had been driven hither and thither was the "Jamestown." The inhabitants of the place thought that a great prize had fallen into their hands. Everybody turned out and took a hand in unloading. The lumber came out in good condition, and the Reykjavikans estimated that there was enough in it to last them for twenty-five years. But, alas, what a world this is as a hope crusher! After the people had unloaded and piled the lumber the Danish government stepped in and confiscated it and started a lumber yard of its own. On the return from the Jeannette expedition, the government made inquiry regarding the "Jamestown" and learned that she was loaded in Pensacola, Fla., in 1865, soon after the close of the Civil War. Thus for sixteen years the lumber-laden vessel had floated as a derelict on the high seas.

THE PROPELLER OCEAN RAISED.

The propeller Ocean, which sunk in collision with the barge Kent in the St. Lawrence river, near Rockport, has been successfully raised and reached Kingston under her own steam. The Donnelly Wrecking Co. had the contract to raise and deliver her afloat for $6,000. She is owned by W. A. Geddes and others of Toronto and Montreal, was valued at $18,000 and was insured for $15,000. The hole stove by the Kent is 27 feet long and extends from the main deck to the keel. It was first covered with two-inch elm plank, then a jacket of canvas was stretched over the break. As soon as the wreck was brought to the surface two steam pumps were put to work on her. It was just sixteen days from the time of starting to raise the wreck until she was tied up at the dock in Kingston, and this is considered one of the quickest if not the most successful wrecking job ever completed. The expedition was under the supervision of Capt. John Donelly and John Donelly, Jr. There was not a single hitch in the work at any time. Everything passed off satisfactorily. The estimated cost of the loss to the Ocean is between $6,000 and $8,000. Mr. Cantlin, dry dock owner, of Montreal, will conduct the survey for the owners. After the survey the Ocean will proceed to Deseronto, the Rathbun Co. having secured the contract for repairing her.

THE COLUMBUS-VIRGINIA RACE.

A well contested race between the Goodrich liner Virginia and the whaleback steamer Christopher Columbus took place on Sunday night on their trips from Milwaukee to Chicago. The Virginia left six minutes ahead and maintained that lead to the harbor entrance at Chicago. Their time over the course of eighty-five miles was four hours and twenty-seven minutes, or nineteen miles an hour, which is excellent steaming for both craft.

THE NORTH WEST A MONEY EARNER.

Before the new steamer North West started on her route between Buffalo and Duluth, it was a common remark, even among well posted vesselmen, that they would rather have what she would lose than what she would earn. Experience, however, has shown that she is an earner.

It is now intended by the management to make twenty round trips this season, leaving Buffalo on October 17th for the last trip. While outsiders were figuring that the big white steamer would lose money on every trip, the management only counted on a loss on the first four and the last four trips, leaving twelve trips to make a profit of $5,000 each, or $60,000 for the season. Instead of this sum, however, Mr. Fred Gordon figures that from the showing already made the net earnings will not fall short of $100,000, or a profit of 10 per cent. on her cost, after deducting insurance and incidental expenses, aside from ordinary running expenses.

Among the items of expense that of insurance cuts quite a figure, notwithstanding it has been placed in the cheapest markets in the world. The bulk of it is being held by members of English Lloyds. The earnings of the North West show up fairly well to date, and Mr. Gordon says the company will proceed as rapidly as possible with her sister ship, the North Land, which he hoped to have ready by May 1 of next year. This, he said, will be followed by two others, if business warrants, just like them, and with the four boats he thought it would be an easy matter to have boats leave Buffalo and Duluth daily.

TRIAL TRIP OF THE KEARSARGE.

The new steel steamer Kearsarge made her trial trip, from South Chicago to the main river, on Saturday afternoon, with about one hundred guests on board. She will leave Chicago on Wednesday for Escanaba, where she will load about 4,000 tons of ore for Lake Erie port with a 40 cent freight. The new boat will compare most favorably with any package freight boat yet constructed on the lakes. H. G. Dalton, of Pickards Mather & Co., Cleveland who are her managing owners was more than pleased at the way the boat handled on her trial trip.

NOTES.

SPEAKING recently at a meeting in Newcastle, England, Sir Robert Ball, the Astronomer Royal for Ireland, hinted at the approach of a time when posterity might construct machinery that would be operated with heat obtained by the direct action of the sun's rays. He showed on a screen a machine which, by means of a reflector, heated the water in a boiler large enough to generate the steam required to work a small press.

A NEW smoke consuming furnace has been applied to the boilers of the steamer Grimm, of the Hamburg-American line, with, it is claimed, astonishing results in fuel economy. From a brief description in the *Engineering and Mining Journal*, the device appears to be an application of the down-draft principle, an external furnace of rectangular shape being attached to the front of the ordinary Scotch boilers. The walls of this furnace are stay-bolted water spaces connecting directly to the boiler, a method of construction which engineers generally will look on with great suspicion for use in connection with marine boilers. English and German patents have been issued on the device to Rudolph Muller, of Hamburg.

THE construction of a ship canal across the Maryland peninsula between the Delaware and Chesapeake Bays is again being agitated by the citizens of Baltimore, Md., a mass meeting having been held at that city June 25 to devise ways and means of promoting the project. At this meeting a permanent committee of 21 members was appointed to investigate the subject and to report to the city councils. The movement to construct this canal was started many years ago and in 1878 the Federal Government appropriated money for making surveys which were carried out by Maj. N. H. Hutton. Five routes were surveyed. In 1882 another route was surveyed by Capt. Thomas Turtle, Corps of Engineers U. S. Army, which, with an early survey made by Mr. B. H. Latrobe, makes seven separate routes which have been more or less thoroughly surveyed.

AN ingenious Frenchman, M. Bersier, has devised a plan by which the compass performs the part of, and actually takes the place of the helmsman. An electric current is placed to work on the desired course, and when the vessel gets off the course for which the electrical instrument is set, the current starts a motor in either direction and moves the rudder until the vessel returns to her proper course. A two months' trial of the apparatus is reported to have resulted very successfully. Among the advantages of this new method is greater accuracy and no loss of distance in a run of twenty-four hours as is usually allowed for ordinary steering by hand. The invention is without doubt a mechanical success, but it can not be said to be a commercial one.

THE MARINE RECORD

ESTABLISHED 1878.

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THE wording of the Fithian free ship bill debars foreign built tonnage from competing with home built tonnage in the coast trade, yet no one believes but that once given the right to fly the American ensign, the property would soon be run irrespective of its former nationality. The Americanized, foreign-built steamers Paris and New York may now sail to or from any United States port, and it is very questionable if there can be any degree of disqualification over one ship more than another when each are admitted to American registry. In this connection hard fought litigation would be a foregone conclusion in the event of a New York owner of foreign built tonnage, duly registered under the American flag, being refused permission to trade, say, between Buffalo and Chicago. An American vessel is entitled to the utmost protection known to the flag, and, once registered, any discrimination would be unjust and intolerable. Therefore, the clause leaving out foreign built tonnage from the coasting trade is misleading and probably is not intended to be enforced in the event of the passage of the bill. The way to keep the coast trade in the hands of Americans is to build, own and sail native tonnage.

TAXATION OF VESSEL PROPERTY.

Since the publication of the annual report of one of the earlier appointed commissioners of navigation, but a passing attention has been given to the system of taxing vessel property for State, county and municipal purposes, and it would appear that in the absence of Federal legislation on the subject gross impositions have been allowed to creep in and now prevail at many points, to the detriment of vessel owning and its tributary industries—building, equipping and sailing.

THE RECORD has been fully alive to the inequitable taxation which year after year has apparently been growing more intolerable, and, as a result of correspondence with the Hon. Eugene T. Chamberlain, the present commissioner of navigation, a resume of the taxation methods, as well as a comparison of taxes on shipping for State and local purposes in many ports of the United States, with taxes levied by other leading maritime nations, is contained in another portion of this issue. This important data has been secured by the Commissioner during the past few months, and his efforts in this direction are worthy of the highest commendation as placing before the maritime public and our legislators facts and figures which have too long been entirely overlooked.

Quoting literally from the Commissioner's report, the taxes levied on shipping at Cleveland, O., last year were more than the combined taxes paid to the German, French and English governments by their three great steamship lines, the North German Lloyd, the Compagnie Generale Transatlantique and the Cunard Line, on their $48,000,000 of shipping, while the showing for Detroit and Milwaukee makes comparatively as unsatisfactory a result for the owners of floating property.

Accepting the figures furnished by the commissioner of navigation, there seems to be every good reason for a determined effort being made looking towards an early readjustment of taxes and the system of assessing the same. To accomplish this, probably the Lake Carriers' Association, for lake tonnage, could bring about results whereby a Federal tax on floating property, or on the annual net earnings thereof, would be assessed, and, indeed, if the experience of the present season is to undergo a repetition, owners can not lift the burden too early, as, from what appears now, a large proportion of the taxes will but go to swell the losses which are already growing enough to swamp the less wealthy class of owners. Certainly, some system may be devised whereby vesselmen will not be mulcted in heavy penalties simply on account of their owning unproductive property, and, furthermore, that the commerce of the country may not be retarded by inequitable methods of taxation on floating property traversing Federal and international waterways.

Notwithstanding every legal and just alternative to overcome the ruinous assessments on shipping owned or registered at prominent lake ports, the fact remains, that instead of assisting interstate, international and *per se* foreign commerce, it appears that all of the municipalities bear down as heavily as possible on floating property, and whether vessels are earning or losing money the tax duplicate as regularly assessed is presented to the owner for liquidation. Such a system by no means fosters one of the most important national industries extant. The lake marine in particular has been borne down heavy through discrimination in State taxation and instance after instance may and indeed has been quoted whereby the owner of floating property on the great lakes has been inequitably and unjustly assessed for taxation amounts, which a more enlightened State county or municipality would have shunned to exact. That owners have been compelled to hold their annual meetings in neighboring counties to evade the tax laws of their own, but points out the iniquity of the prevailing laws, nor are they positively exempt from over-bearing taxation in complying with the State law in this respect if due regard is paid to a recent decision in Detroit, Mich.

It may be candidly stated and conscientiously upheld that floating property and oversea adventures, require the utmost protection and privileges of the flag under which it is conducted. Hence, the United States, State, county or municipality—ought not to do less than the least which is expected of it, viz.: to foster the trade carried on under the flag, to the order of national prestige, the upbuilding of commerce and the general welfare of the nation, for, let it be understood that vessel owning is a distinctively patriotic adventure whether money making or not, and those who embark in it are first glorious of the flag and make secondary the emoluments arising from the ventures under which they have placed a financial consideration. In view of the foregoing it is simply ridiculous to "kill the goose which lays the golden egg" and by this we mean that it is wrong to cripple the industry which makes the best national returns from a Democratic standpoint.

The owners of floating property on the lakes have rereceived a severe object lesson during the past season or two, now let them combine to eliminate one feature at least, which threatens their industry and imperils the economical transportation facilities of the country, and by so doing, permit those to live, who, only by observing the strictest economy in matters of trade and transporta- are willing to meet all other national exigencies.

ENLARGING THE ERIE CANAL.

The convention at Albany, N. Y., has taken a most sensible view relative to the improvement of the State canals. A feeling had been gaining ground to the effect that the Erie canal system might be turned into a ship canal, so as to admit of the passage of ocean going vessels. This, of course, is sheer nonsense and some of the evidence submitted to the canal committee of the convention in charge of this special legislation amply refuted all that was advanced by the advocates of a ship canal on the Erie system. Mr. George Clinton, of Buffalo, giving evidence before the committee, said: "The ship canal project is impossible, physically and financially. If such a canal were built it could not be used by ocean going vessels, which are not adapted to fresh water navigation. It's about as natural for an ocean vessel to navigate inland waters as it is for a hen to swim. It would be a waste of money to build a costly vessel for service at sea and employ her in carrying grain which a vessel costing one-tenth as much can carry as well." Mr. William E. Cleary, of the New York Board of Trade and Transportation, has similar views: "This talk of a ship canal is all nonsense. Barges can be built for $5,000, 120 feet long, which will carry 20,000 bushels of grain through the canals. The canal boats can go faster in the canals than ocean or lake vessels could, and they are cheaper."

That there will eventually be a deep water canal from the eastern limits of the lakes to tidewater is generally admitted, but whether it will take one, two or three decades from now before work is commenced on such an undertaking, opinions differ, and even when the waterway is completed, we do not look for a great rush of oversea tonnage or many through cargoes, for economical lake vessels would be found indifferent ocean going craft, and the same applies to the class of vessels built for the foreign trade. The best service is now being obtained by craft built specially for the trade it is desired to place them in, and there is no form of hull or equiment which answers equally well for canal, lake, coast or ocean purposes, nor will there ever be. Furthermore, the cost of trans-shipping is so moderate that it would not pay a vessel of deep draft and otherwise large proportions to go crawling along through canals for days at a time when she ought to be passing over hundreds of miles with a few thousand tons of cargo.

The convention will do well in agreeing to enlarge and otherwise improve the Erie system commensurate with the traffic which it is certain to bear a decade hence. To go further and attempt a ship canal undertaking, even though of minor dimensions, would, in our opinion, be the height of folly, besides saddling upon the State an enormous "white elephant."

FOR FAIR FREIGHT RATES.

A condition now confronts the lake marine which was prognosticated if not wholly realized last winter when certain energetic and well advised members of the Lake Carriers' Association endeavored to focus interests so that a palpable loss on the handling of vessel property might possibly be mitigated.

The contemplated outlook at that time has now really set in, and, willing or unwilling, a percentage of tonnage has been compelled to withdraw from the freight market, while there are still some vessels that have never yet fitted out to enter into the season's competition for business. It has been estimated that about one-third of the lake tonnage is now laid up and the prospect, owing to mining and railroad strikes, is anything but bright for those still running, as other labor troubles are talked of which would affect the carrying trade.

The lesson taught this season in the handling of vessel property ought not to be forgotten, and out of the evil may come good, providing that a sufficient number of owners will stand together in bringing order out of chaos, or, in other words, prevent the demoralization of the freight market by insisting upon receiving nothing less than fair paying rates of transportation for the future. This question has, of course, been gone over and apparently worked threadbare, yet there was a lack of unanimity in the ranks and all started out their vessels with the vain hope of clearing a little money where closely figured results only proved that ordinary disbursements alone could be met on the rates of freight offered.

Tonnage is now being laid up at all the principal ports, and, as events have transpired, it would have been better for all concerned if only a portion of each fleet had been fitted out in the spring, as was done by a few of the most conservative owners and managers. To emphasize this feature in regard to future action is the bounden duty of all owners, and by concerted arrangements obviate the necessity of fitting out, sailing at a loss and eventually laying up craft, all within a period of ninety days.

LAKE FREIGHTS.

There has been a fair demand for coal tonnage from Ohio ports during the week at 60 cents to Chicago or Milwaukee 65 cents to Racine, 35 cents to Portage, Ore freights have been very quiet at 60 cents from the head of Lake Superior, 55 cents from Marquette and 40 cents from Escanaba. The Buffalo coal rate remains the same, 45 cents to Chicago or Racine and 40 cents to Milwaukee or Green Bay, Duluth 25 cents. Canal freights steady at 3 cents on wheat and 2¾ cents on corn to New York.

Chicago grain freights throughout the week have simply been out of sight. Early in the week a line agent was reported to have offered any shipper who would ship 60,000 bushels of corn to Buffalo at 1 cent a bushel, a rebate of $100. Even at this lowest rate on record he failed to get a consignment, and so it has gone all week at 1 cent nominal rate. Shippers explain the situation by saying there is no demand for wheat. The railroad strike is also a factor in holding back grain and blocking the forwarding of general cargoes. The Toledo rate on wheat to Buffalo is quoted at 1 cent, for what little there is of it. Coal shipments are very slow, a Detroit charter was made at 1⅛ cents, cargo to be held until July 15. The Duluth wheat rate to Buffalo is still quoted at 1½ cents with little offering. There is something over five million bushels in the elevators with very little coming in from the country.

THE MOST POWERFUL LIGHT IN THE WORLD.

The United States Light-House Board is rapidly perfecting arrangements to replace the present beacon on Fire Island entrance to New York bay with the famous Le Paute lens, which was exhibited at the World's Fair at Chicago, Ill. The government purchased it for $10,000, and came into possession of a light which has no equal in the world. As 150,000 ships pass Fire Island annually, it has been decided to erect the new light at this, the most important station in the country.

Experiments are being made with the new lens at Tompkinsville (S. I.) light-house station under the personal supervision of Capt. W. S. Schley, U. S. N., light-house inspector, who glows with enthusiasm in describing the wonders to be accomplished by the huge lantern.

The strength of the new light will be 250,000,000 candle power, which is 50,000,000 greater than the search light now placed at Sandy Hook.

A GREAT SEARCH LIGHT.

The military authorities desirous of guarding the entrance to New York bay at Sandy Hook, established a powerful search light of two million candle power which was expected to penetrate ordinary fog and thick misty weather sufficient to reveal the approach of any offensive vessel by day or night. A test of the light was made on Monday night and it resulted in confirming the knowledge that in a fog the light cannot find an object even if close to shore. Major Phipps and the ordnance board were on hand to witness the test of the light. Some time before the arrangements for the test were completed, a dense fog began to drift in from the ocean, and it was not long before every object seaward was hidden by the impenetrable mist. The manager in charge of the light decided, however, to proceed with the test, and officers were sent off shore in a launch with instructions to return aud make a landing if possible without being discovered.

The launch, to render her visibility being as difficult as possible, was covered with canvas painted the shade of the surface water. The immensely powerful rays of the great electric light were directed upon the swiftly moving launch and for a brief period she stood out against the fog bank as distinctly as silhouette. Then the mist appeared to open to allow of the passage of the launch. No longer could the boat be seen. The light turned this way and that, the observers eagerly looking to find some trace of the craft. Nothing could be seen. The great rays of the light struck the fog bank, which might as well have been a stone wall as far as the penetrative power of the light was concerned.

The hunt for the launch was continued for a long time, the fog in the meanwhile becoming more dense. Finally the boat, still unobseruvd, ran into the dock under cover of the fog and tied up, those on board of her then coming ashore. It was not until the officers were well up to the dock that they were found by those looking for them.

It was the consensus of opinion among those who witnessed the action of the light that as a means of discovering the landing of an enemy, the light, in the case of a heavy fog, would be a failure. It may be said, however, that the fog was extremely dense. As a means of military signaling, however, the light has proved to be a decided success.

BOILER INSPECTION RULES.

A measure introduced last March by Congressman Berry, of Kentucky, passed the House on Monday. It amends section 4434 of the Revised Statutes to read as follows: "No externally fired boiler having its shell constructed of iron or steel plates exceeding an average thickness of thirty one-hundreds of an inch shall be employed on any steam vessel navigating the Red River of the North or rivers flowing into the Gulf of Mexico or their tributaries; and no externally-fired boiler employed on any such steam vessels shall have less than three inches space between its shell and any of its internal flues, and not less than three inches space between such flues when any such flues are more than five inches in diameter; and every such externally fired boiler employed on any such steam vessel shall be provided with a man-hole in the lower part of the front head thereof, of such dimensions as may be prescribed by the board of supervising inspectors, in all cases where the distance between its internal flues is less than three inches. Externally fired boilers having shells constructed of iron or steel plates not exceeding an average thickness of fifty one-hundredths of an inch may, in the discretion of the Secretary of the Treasury, be authorized and employed on vessels navigating the Atlantic and Pacific oceans or salt water bays or sounds, or the Great Lakes, or any of them, and water flowing to and from the same, or any of them; provided that in inspection no plate that is by this act limited to a thickness of thirty one-hundredths of an inch and no plate that is by this act limited to a thickness of fifty one-hundredths of an inch shall be rejected for use if found to exceed these dimensions, respectively, if the average thickness thereof does not exceed the limits therein specified, and the amount of steam pressure that will be permitted to be carried in boilers constructed in accordance with the requirements of this act shall be determined from measurement showing the least thickness of the plates."

NEW YORK CANAL LEGISLATION.

The proposed amendments to the state constitution, recommended by the canal conference, recently held in Albany, N. Y., and now pending in the canal committee of that body, are as follows:

Section 6 of article 7 is amended by retaining the provision relating to perpetual ownership of the canals by the state, but with some changes of phraseology. As revised, the proposed changes read as follows, viz:

Section 6. Neither the Erie canal, the Oswego canal, the Champlain canal, the Cayuga and Senaca canal, nor the Black River canal, nor any part of said canals, shall be sold, leased, abandoned or otherwise disposed of; and the right of occupation or user thereof shall never be granted, but the same shall remain the property of the state and under its sole control and management forever.

There is added the following as new matter which is the provision providing for the improvement of the canals: The Erie canal and the Oswego canal shall be improved in such manner as to give nine fect depth of water through their entire length, except over mitre-sills, locks, culverts and acqueducts, over which there shall be at least eight feet of water; and the locks upon the berme side of such canals remaining unlengthened shall be lengthened, except locks numbers one to eighteen inclusive, and sixty-seven to seventy-one inclusive.

The Champlain canal shall be improved in such manner as to give seven feet depth of water through its entire length.

STAGE OF WATER AT ST. MARY'S FALLS CANAL.

DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Depth of water at the St. Mary's Falls Canal for the week ending July 5, 1894:

June	28	8 a. m.,	14	feet	9	inches.	8 p. m.,	15	feet	3	inches.
"	29	"	15	"	1	"	"	15	"	0	"
"	30	"	15	"	0	"	"	15	"	0	"
July	1	"	15	"	0	"	"	15	"	2	"
"	2	"	15	"	0	"	"	15	"	0	"
"	3	"	15	"	3	"	"	14	"	11	"
"	4	"	15	"	2	"	"	14	"	9	"
"	5	"	15	"	1	"	"				

"SOO" CANAL TRAFFIC.

The statement of commerce East and West bound through St. Mary Falls Canal, Michigan, for month of June, 1894 is as follows:

EAST BOUND

ITEM.	Designat'n.	Season 1894
Copper	Net tons	12,754
Corn	Bushels	469,489
Building Stone	Net tons	3,770
Flour	Barrels	1,142,965
Iron Ore	Net tons	1,217,365
Iron Pig	Net tons	2,070
Lumber	M. ft. B.M.	123,967
Wheat	Bushels	2,934,890
Unclasssified Freight	Net tons	21,064
Passengers	Number	1,899

WEST BOUND.

ITEM.	Designat'n.	Season 1894
Coal, Anthracite	Net tons	108,220
Coal, Bituminous	Net tons	12,300
Manufactured Iron	Net tons	4,391
Salt	Barrels	43,107
Unclassified Freight	Net tons	32,204
Passengers	Number	1,828

East bound freight, net tons,	1,678,539
West " " " "	163,830
Total	1,842,369

DID NOT RENDER ASSISTANCE.

United States Shipping Commissioner Shields, of New York, rendered a decision on Tuesday upon the hearing that was had before him in the case against Capt. J. G. Baker, of the ship Kenilworth. The decision holds Capt. Baker for the grand jury upon the charge of having deserted the schooner Flora Sawyer in a disabled condition at sea. The case is of especial interest because it is the first prosecution under the statute making it a criminal offense to desert a vessel in distress.

CHANGING AIDS TO NAVIGATION.

Vesselmen on the St. Lawrence river are protesting against the arrangement of buoys and beacons near the Cross Over lights as laid down by this year's published list. Instead of marking the shoals as requested, the light-house tender Haze, on her annual visit, made several changes of buoys which in no way improved, but, on the other hand, made it still more dangerous to navigate the St. Lawrence. A number of the St. Lawrence river pilots state that it is impossible to follow in the channel as now staked out, and suggest, as an improvement, that the buoys at Oak Point and Empire State shoals be placed back in their original positions. They do not consider the river nearly as safe to navigate as it was before the Haze made her recent trip, and state that the department should see that there be no delay in making these changes. The claim is widely made that some of the changes have made the passage of the river by night more dangerous, instead of lessening the risk. The buoys in the vicinity of Sister Light and Oak Point shoal, Oneida shoal and other places have rendered the channel more crooked than is necessary. Well advised steps are being taken to bring the matter before the attention of the district officer in charge of the aids to navigation, as well as the Light-House Board at Washington.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

GRAND HAVEN PIERHEAD (FRONT) LIGHT-STATION.

Notice is hereby given that on or about July 10, 1894 Grand Haven Pierhead (front) Light (fixed red) will be moved 278 feet nearer the outer end of the S. pier at the entrance to Grand Haven Harbor, E. side of Lake Michigan, Michigan, and exhibited from a lantern in the enclosed glazed end of an elevated conduit extending shoreward 378 feet to the Pierhead Light-Tower. The distance between the lights will then be about 384 feet, and the lights will, as heretofore, form a range for approaching the harbor, the range line approximating the line of direction of the outer end of the S. pier.

The focal plane of the light will be 24 feet above the mean level of the lake.

By order of the Light-House Board.

JAMES A. GREER,
Rear Admiral U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C. June 28, 1894.

Notice is hereby given that the third-class black can buoy on Bank Point, Lake Muskegon, Michigan, was changed to a second-class black can buoy June 29th, 1894.

By order of the Light-House Board.

J. N. DAYTON,
Commander U. S. Navy, Inspector 9th Light-House District.

LIQUID FUEL.

According to Indian Engineering, the utilization of the heat force of oil as a fuel is increasing, the reduced price of petroleum and the cheap carriage of it in tank. steamers instead of barrels, greatly stimulating its use. As fuel for steam boilers at sea there are certain economies in the labor of stoking which encourage its use. But the choice depends on variable circumstances, such as the relative cost of oil and coal, at any particular place, the certainty of finding a store of oil ready at ports of call, and finally, in the absence of risk in the storage and use of oil. At present it is only at places such as the Caspian Sea, or on the Volga, where oil is cheap and coal very dear, that boilers are made for oil fuel exclusively. The explosive force of vaporized oil, without the inconvenience and waste of steam boilers, is more immediately interesting to engineers. During the last two or three years oil engines have been greatly improved, and are taking a more important position among motors which may be relied upon. Except in countries where import duties are imposed, the cost of petroleum has been brought down to a low price, and as the consumption in an oil engine only ranges from one-sixth of a gallon per effective horse-power per hour, the oil motors are cheap as well as convenient. Not only as fixed machines, but as motors for launches and tram cars, oil engines are likely in the future to compete with steam and electric engines.

MIAMI AND ERIE CANAL.

Senator Brice's bill to authorize a survey and estimates of cost of deepening and widening the Miami and Erie canal in the state of Ohio has been read twice and is now in the hands of the committee on commerce.

It provides that "the Secretary of War be authorized and directed to cause to be made by skilful engineers of the army a survey of the Miami and Erie canal-connecting the waters of Lake Erie at Toledo with the Ohio river at Cincinnati, and estimates of the cost of deepening and widening said canal so that it shall not be less than 70 feet wide at the water line and not less than seven feet in depth of water, to be furnished with new locks not less than 150 feet in length and 21 feet in width, and to have a capacity for vessels of at least 280 tons burden, and to report to the next session of Congress the cost of so enlarging said canal, and the construction of said locks; and for the purposes of this act the sum of $25,000, or so much thereof as may be necessary, is hereby appropriated, provided, that nothing herein shall be construed to commit the government to proceed with the construction of said improvement."

AMERICAN STEEL STEAMSHIPS.

Replies from American shipowners, so far as received by the Bureau of Navigation, Treasury Department, show that Americans own under foreign flags 64 steel or iron steamships, of 197,108 gross tons, in the transatlantic trade. These are forbidden by the registry law of 1792 to fly the American flag, and are accordingly subject to foreign, chiefly British, law.

The American steel or iron steel tonnage in the transatlantic trade under the registry law consists of 82 steamships, of 175,369 gross tons, of which 19 steamships, of 42,821 gross tons, including the New York and Paris, were built abroad, and have been permitted to fly the American flag by special act of Congress, or as wrecks repaired in the United States.

SAILORS' SUPERSTITIONS.

Lieut. J. D. Jerrold Kelley gives an interesting chapter of "Superstitions of the Sea" in the July number of *The Century*. After studying them fairly well, he doubts if modern sailors are more superstitious than any other class with equal training and opportunities.

I believe that everybody is leavened with superstition, notably the noisiest scoffers, and those mountebanks, the Thirteen Clubs, for these gentry protest too much. It seems to be a human instinct, modified by racial inheritances and developments. In the youth of the world its manifestations were the earliest recorded utterances of men concerning the visible phenomena of the universe, and its grip on simple words was an outgrowth of the fear of the unknown. Of all people sailors must deal at first hand, and helplessly to some degree with the most unknowable, uncontrollable of material problems, the sea, and it is only natural that their folk-lore should be, in part, land stories fitted with sea meanings, and in part blind explanations of sea phenomena—both being maintained valorously by the gruesome conservatism of the seaman, even after rational causes come to the rescue.

In earlier days superstition was as much a part of every ship as the water she was to float in; for it entered with the wood scarfed into her keel, and climbed to the flags and garlands waving at her mastheads; it ran riotously at her launching, controlled her name, her crew, and cargoes; it timed her days and hours of sailing, and convoyed her voyages. It summoned aparitions for her ill-fortune, and evoked portents and signs for her prosperity; it made winds blow foul or fair, governed her successful ventures and arrivals, and, when her work was done, promised a port of rest somewhere off the shores of Fiddlers' Green, where all good sailors rest eternally, or threatened foul moorings deep in the uncanny locker of Davy Jones of ballad memory.

In many countries stolen wood was mortised into the keel, as it made the ship sail faster at night, though if the first blow struck in fashioning this keel drew fire, the ship was doomed to wreck upon her maiden voyage. Silver (usually a coin) placed in the mainmast-step went for lucky ventures, and misguided indeed was the owner who permitted any of the unlucky timbers to enter into the construction. Something of the ceremonious character given to launchings survives to this day; where of old ships were decked with flowers and crowns of leaves, flags now flutter; the libation poured on the deck, the purification by the priest, the annointing with egg and sulphur, find their exemplars in the well-aimed and wasted magnums which are shattered on the receding cut-water as the craft, released from the ways, slips, well greased, into the sea; the jar of wine put to his lips by the captain and then emptied on deck, the cakes and ale set before the crew, the stoup of wine offered to passers-by on the quay, and the refusal of which was an evil omen—all are realized in these sadder ustrums by the builder's feast in the mold-loft.

Lawyers, clergymen and women are ever looked at with disfavor on sailing ships as sure to bring ill-luck—lawyers, undoubtedly from the antipathy of sailors to the class, a dislike so pronounced that "sea lawyer" is a very bitter term of reproach, and "land-shark" is a synonym. Clergymen—priests and parsons—are unlucky, probably because of their black gowns and their principal duty on shipboard—that of consoling the dying and burying the dead—though possibly because the devil, the great storm raiser, is their especial enemy, and sends tempests to destroy them. Women—who may reason out their unpopularity, save that a ship is the last place for them, or perhaps because of the dread of witches; for of all spell-workers in human form none are so dreaded as the female brewers of hell-broth. Like the priests of the middle ages, they can raise a prime quality of storm by tossing sand or stones in the air, and, like Congreve's Lapland sorceress, are supposed to live by selling contrary winds and wrecked vessels.

Certain families could never get sea employment under their own surnames, not even such members as were born with cauls, for they were tabooed, barred; and many animals—hares, pigs and black cats, for example—could neither be carried nor mentioned on shipboard, save under very stringent conditions. Scarborough wives kept a black cat in the house to insure their husband's lives at sea; but on voyages every black cat carried a gale in her tale, and if she became unusually frolicsome a storm was sure to follow. Years ago, on board the flagship Franklin, up the Mediterranean, we had a yarn that illustrated a survival of this antipathy to certain forms of animal life. Two old quartermasters were heard during the morning watch exchanging in the cockpit dismal experiences of their dreams the night before. One was particularly harrowing, for the narrator wound up with, "And I say, Bill, I was never so afeared in my life; when I woke up it seemed as true as day, and I was all of a tremble like an *asp on a leaf*."

"What's that?" said the other.

"Pipe down; don't mention that rep-tile; he's a hoodoo on shipboard."

Figureheads were at first images of gods, and later of saints and sea heroes, and were held in high reverence, and the eyes glaring from each bow of a Chinese junk enable the boat to voyage intelligently—for, "no have two eyes, how can see? No can see, how can do?" is the shibboleth of their sailors. Ships' bells were blessed, and to-day if a mistake in their striking is made by a stupid messenger boy, they are struck backward to break the spell. In one ship to which I was attached the bell had come down to us from the Ticonderoga, through the Thetis, I think, and was supposed to be under the special control of a blue spirit of mischief. Why the blue spirit should indulge in such vagaries is hidden, but in the middle of deep sea nights, when the moon rode in an auspicious quarter, and the wind blew with the force and from the direction necessary for the spell, the blue bell was bound to make a complete circle and ring out nine bells stridently. Of course, no one ever heard or ought to hear nine bells at sea, for eight bells are as fixed in limit as the decalogue; but this was promised. Whether the conditions failed to co-ordinate, I cannot say, but though the bell was watched by all sorts and conditions of men, the occult ceremony was never performed for our benefit. Is it necessary to add that by report it was a common event in the other ships mentioned?

The proverbial desertion of sinking ships by rats is founded upon reason, and undoubtedly occurs, for as rats like to prowl about dry-footed, and will stick to one place so long as food is plenty, it is probable that the ship they leave is so leaky and unseaworthy that their under-deck work is too wet to suit them.

AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation: A second bearing of the Sun may be taken at sunset by reversing the bearings to read west instead of east, as, for example, N. E. by E. for a sunrise bearing would read N. W. by W. for a sunset, or E. 30° N. to W. 30° N.

LAKE ERIE AND S. END LAKE MICHIGAN. LAT. 42° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 5	E. 32° N.	NE. by E. ⅛ E.
July 10	E. 30° N.	NE. by E. ¼ E.

LAKE ONT., S. END HURON AND CENTER LAKE MICHIGAN LAT. 44° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 5	E. 33° N.	NE. by E. ⅛ E.
July 10	E. 31° N.	NE. by E. ¼ E.

N. END LAKES HURON AND MICH. LAT. 46° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 5	E. 34° N.	NE. by E.
July 10	E. 33° N.	NE. by E. ⅛ E.

LAKE SUPERIOR. LAT. 48° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 5	E. 36° N.	NE. ⅞ E.
July 10	E. 34° N.	NE. by E.

With a compass correct magnetic, the difference between the observed and true bearing will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing the result after the variation is applied will be the amount of deviation on that course.

APPRENTICES PAYING TO WORK.

Relative to the cost of sailing, or running ships under different flags it is little wonder that British vessels can accept a less rate of freight than those of other countries, and especially of the United States. Our attention has been called to the following item.

"I notice in an article reprinted from the *San Francisco Chronicle* that the ship Mowhan is credited with carrying sixteen apprentices, and on turning her up in Lloyd's Register find that she is 2,747 net register and is owned in Liverpool, hence my writing to ask whether the *Chronicle's* statement is correct, and if so what rate of premium owners get for the boys? For my part I take it that sixteen is a missprint for six. Although I have owned large sailing ships for many years, I have never charged an apprentice premium, and never shipped more than four lads at a time. SCOTUS."

To which the editor of the Liverpool *Journal of Commerce* replies:

"The statement is quite correct. The vessel does carry sixteen apprentices, all of whom pay premiums. Special accommodation is provided for the boys, including a separate mess-room and bathroom.

With sixteen strong, hearty boys on board, this ship would be, or is, almost sufficiently manned, and, instead of the owners paying for their services, the apprentices or their parents donate a premium to the shipowner for the privelige of being allowed to sail and work on his vessel. The apprentice system, not to mention the premium part of it, is entirely lacking in the American merchant service, yet with so much gratuitous help, the result in the case of the Mowhan must surely cut a figure in the wages list and net earnings of the ship, so that she could accept a low freight rate, and clear a trifle for the owners, when other vessels were lying up, or losing money on the same rate.

TACOMA TO SOUTH AFRICA.

One of the latest developed ports in the United States is Tacoma, Washington. During the last ten years large numbers of eastern people have sought this stepping off place on the Pacific coast at the head of Puget Sound until there is now a sufficiently enterprising population to look around for new fields of commerce, venture and gain. A private correspondent sends us the following from the Tacoma *Ledger*.

"Without doubt the longest voyage that any steamer has ever made from Tacoma will be made by the steamer Santa Clara. She will leave this port for Cape Town, South Africa, July 5, she has accommodations for fifty cabin and about 300 steerage passengers. She is also described as a fine, first-class passenger steamer of 3,000 or 4,000 tons.

"From other sources it was learned that the steamship may be placed permanently on the run between Tacoma and other Pacific coast points, and Cape Town. The South African gold fields, situated north of Cape Town, described as the richest in the world, are attracting people from almost every country, and it is thought that by takiug advantage of the revenue derived from the trade attracted by the gold, a steamship line could pay expenses until a trade could be built up. Mr. Ward, her agent, acknowledged that if there was any inducement offered, the Santa Clara would continue on the run between Tacoma and South Africa.

"A number of young men of Tacoma are already known to be going on the steamship on her first trip. She will be about six weeks on the voyage from Tacoma to Cape Town. The route she will take will be south over the Pacific ocean along the western coast of North and South America to the Straits of Magellan. Passing eastward through these straits she will take a direct route to Cape Town. She is going in a fine season of the year and few storms and but little rough weather is expected to be encountered.

"Nothing whatever is known of the steamer Santa Clara by any one along the waterfront. The official list of merchant vessels of the United States and the *Commercial News'* list of Pacific coast vessels do not contain any record of her, so it is evident she is a foreign vessel. Posters have been printed by her agents advertising the date of her departure."

SCREW PROPULSION BY NON-REVERSIBLE ENGINES AND MOVABLE BLADED PROPELLERS.

Mr. Robert McGlasson, inventor and patentee of the movable propeller blade system which permits a steamer to stow, stop or reverse by adjusting the blades of the wheel without reversing the engines, has just been informed that one of his propellers and non-reversible engines placed in a French boat at Havre is a complete success from every standpoint. Messrs. Priestman, the extensive oil engine manufactures and builders of launches, after an exhaustive test of over two years, are now fitting to some new vessels with larger sized engines and propellers on Mr. McGlasson's principle.

TRADE NOTES.

The Frank Kneeland Machine Co., Pittsburg, Pa., have just ordered from the well known firm of Manning, Mackwell & Moore, 111 Liberty street, New York, a large three moter electric traveling crane with auxiliary host.

The Trout propeller wheels are not only maintaining their excellent reputation for efficiency, but orders are more numerous from new patrons than ever before, and a Trout wheel may be sighted from Maine to California, where there is water enough to float a steamer.

We have received from Schaeffer & Budenberg, New York and Chicago, a copy of their handsomely bound illustrated catalogue. This firm of engineers and manufacturers have been established since 1850 and they enjoy a most extensive patronage in their specialties of pressure and vacuum guages of every description. The steam syrens manufactured by the firm are of superior workmanship and efficiency, and it is claimed that they give a more intense and distinctive sound than any other mechanical arrangement yet devised.

PROPOSALS.

U. S. ENGINEER OFFICE, Oswego, N. Y., July 7, 1894. Notice is given to all persons interested in wreck of schooner Christina, in Harbor of Sackett's Harbor, N. Y., that if within thirty days from date of this advertisement they shall not have notified this office of their intention and taken preliminary steps to remove said wreck as soon as practicable the wreck will be regarded as abandoned and derelict and will be removed by the United States in accordance with law. Sealed proposals, in triplicate, will be received here until 12 M. Saturday August 7, 1894, for removal of abovenamed wreck. All information furnished on application. DAN C. KINGMAN, Capt. of Engineers. 27-30

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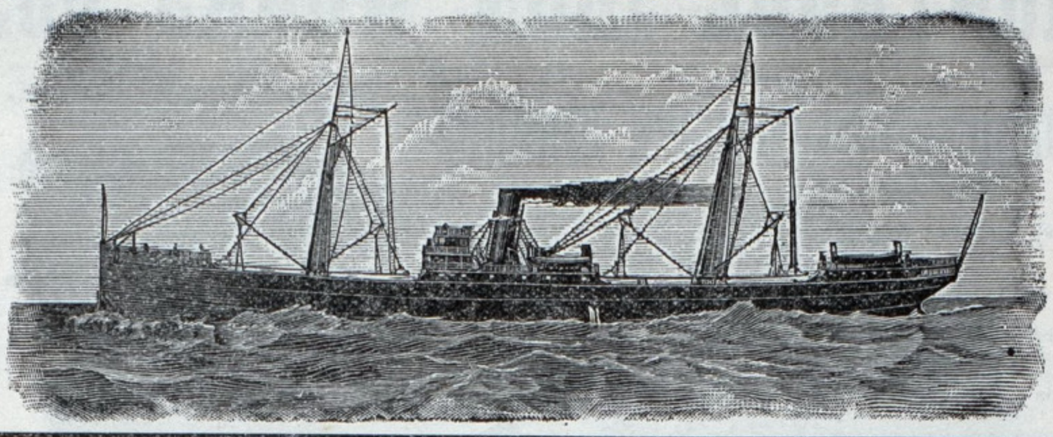

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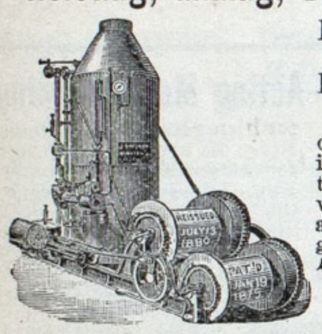

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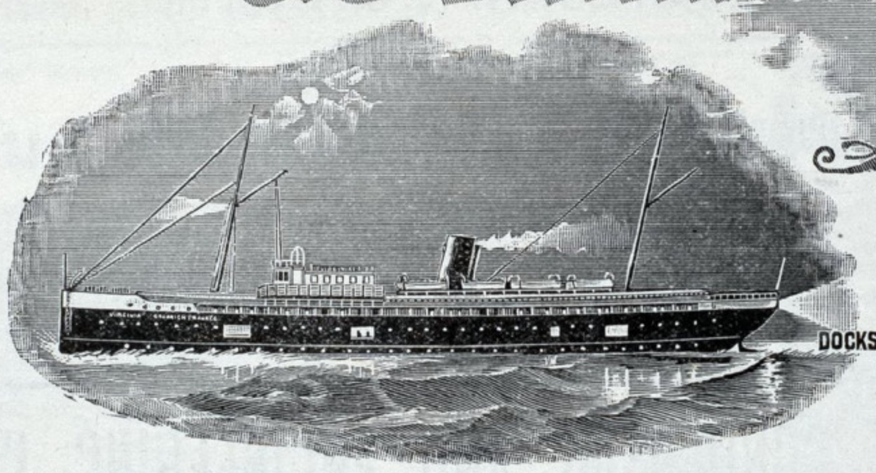

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PROPOSALS.

U. S. ENGINEER OFFICE, 34 West Congress St., Detroit, Mich., June 28, 1894. Sealed proposals for Power House and Office Building for the 800-ft. Lock, St. Mary's Falls Canal, will be received here until 2 p. m., July 28, 1894, and then publicly opened. Information furnished on application. O. M. POE, Col. Corps of Engineers. 26–28

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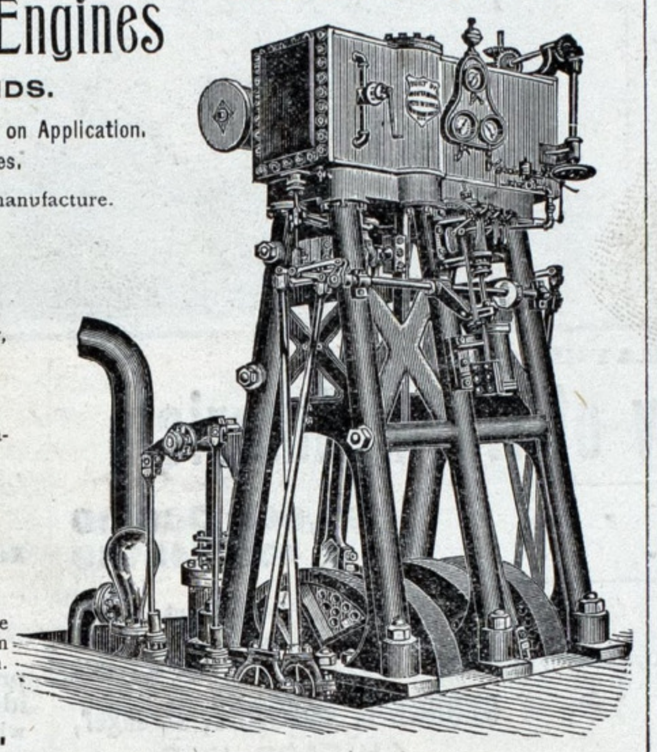

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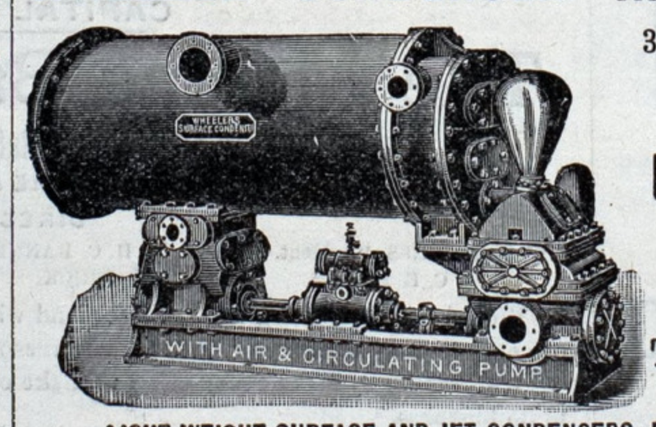

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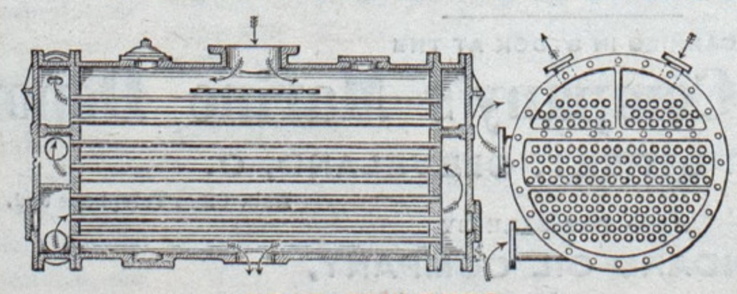

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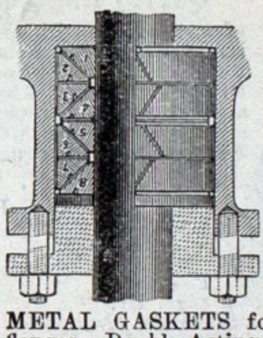

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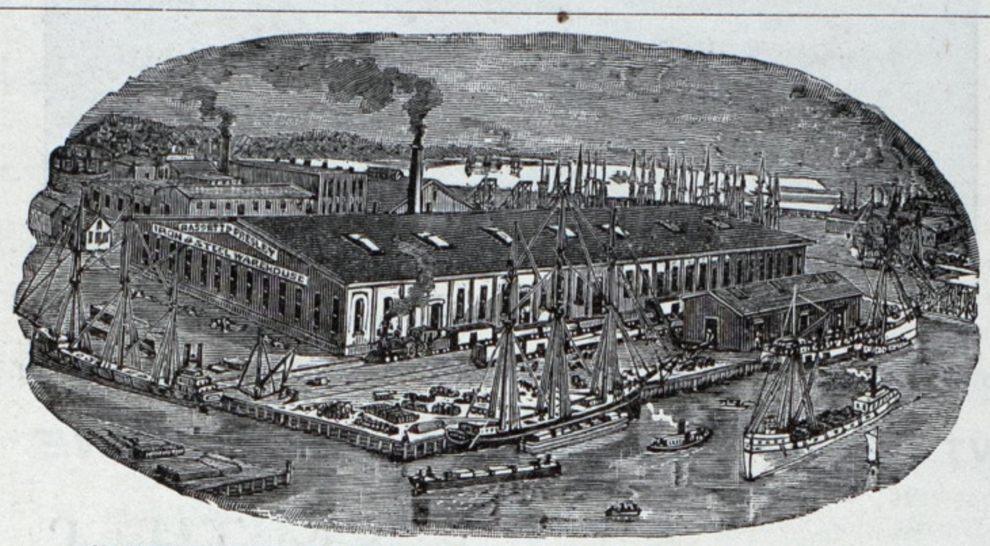

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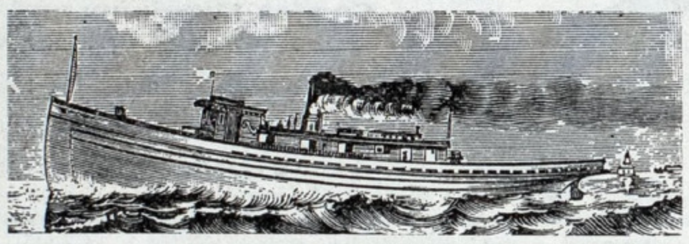

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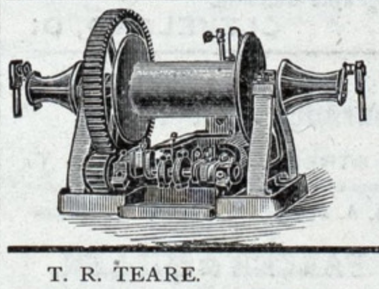

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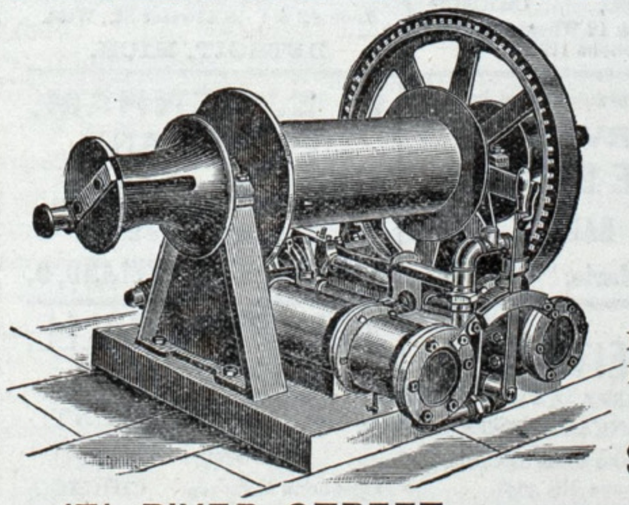

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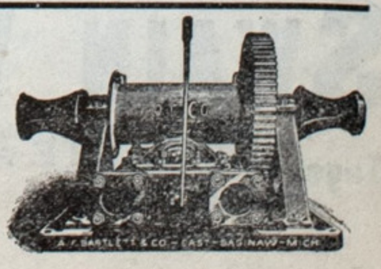

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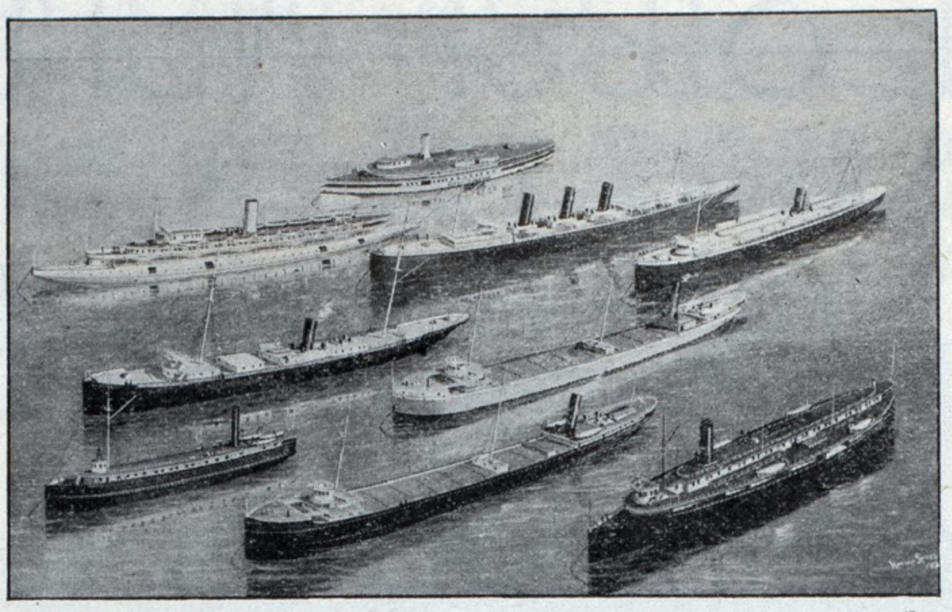

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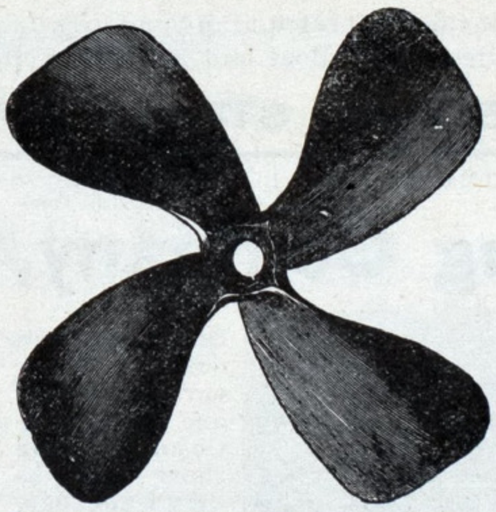

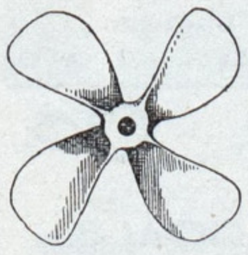

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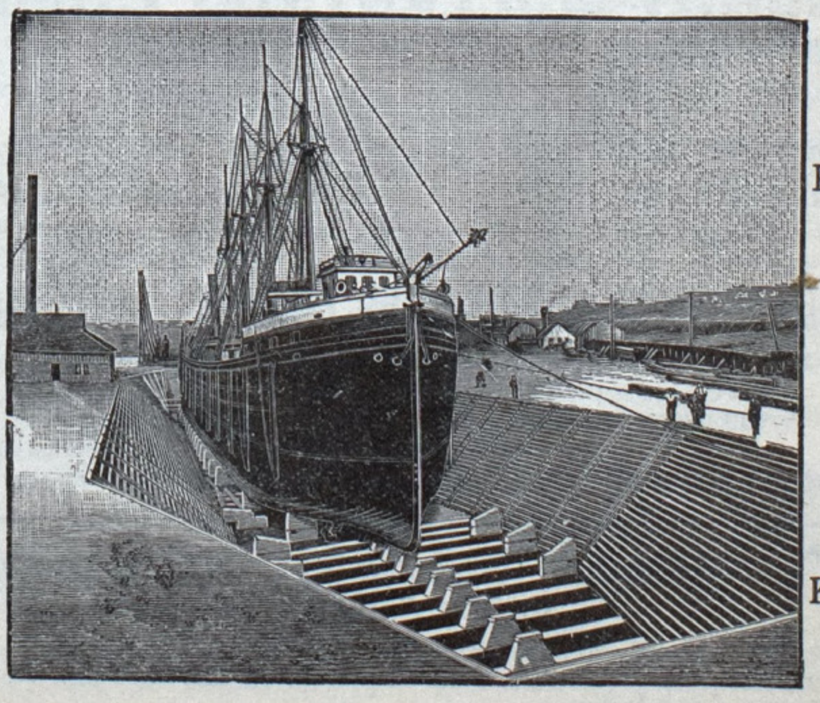

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